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EXCAVATIONS AT BRAHMAPURI (KOLHAPUR) 1945-46

BY

HASMUKH DHIRAJLAL SANKALIA
M.A., LL.B., Ph.D. (London)

AND

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B.A., Ph.D.

POONA
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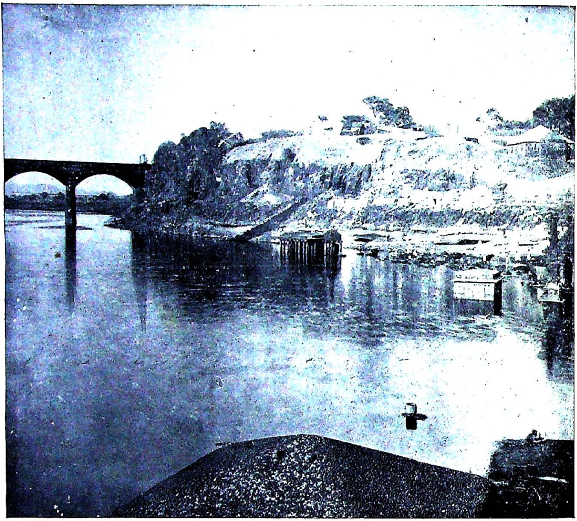

FRONTISPIECE: Brahmapuri Mound, right bank of the Panchaganga River, Kolhapur.

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EXCAVATIONS AT BRAHMAPURI (KOLHAPUR) 1945-46

BY

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First Edition: 1000 copies, September 1952

Price, Rs. 30

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No-1166

FOREWORD

BRAHMAPURI is the name of an area—an elevated place on the western outskirts of the city of Kolhapur. N. latitude 16°41', E. longitude 74°71'. It is situated on the right bank of the Panchaganga River. Ever since its antiquity was revealed in 1877 antiquarians have been interested in the history of the site.

The immediate cause of the excavation, the results of which are embodied in this Report was the discovery of a bronze Graeco-Roman statuette, (Poseidon, Roman God of the Sea), bronze vessels, a toy cart and other interesting objects by Professor K. G. Kundangar (subsequently Director of the State's Archaeological Department) in trial diggings on the western side of the mound. Owing to the fact that this part of the mound was much disturbed by earth and brick grabbers, and not much of later deposits had remained, it was difficult to assess the true stratigraphic context of these finds. In 1945 the Kolhapur Government, at the suggestion of Professor D. R. Gadgil, Director of the Gokhale Institute of Politics and Economics, invited this Institute to undertake the work of excavating the site on scientific lines. The Institute welcomed this opportunity to obtain, if possible, a sequence of cultures representing the little known historical periods of the Deccan, and with a little amount of luck, to strike a pre-Mauryan, if not a pre-historic, culture.

Professor H. D. Sankalia, Head of the History Department and Dr. M. G. Dikshit, Curator of the Institute, were deputed by the Institute to conduct these excavations which were entirely financed by the Kolhapur Government. The work lasted for over four months; and three scholars from Dharwar, four from Kolhapur and four from Poona participated in it as trainees.

Without going into details it may be said that within the limitations set by the area and the finances at the disposal of the excavators, the results may be regarded as satisfactory. These have revealed a sequence of cultures which had followed the Sātavāhana or Āndhra culture of the 1st century A.D. It can also be said that the statuette of Poseidon and bronze vessels found by Professor Kundangar were buried there during the 1st-2nd centuries A.D., as similar terracotta objects, particularly an earthern jar, were actually found 20 feet below the surface of the mound covered by six later deposits of earth on a Ṣātavāhana kitchen floor.

It may now be safely stated that Kolhapur had also established contact with the Roman world, like several other sites on the east and west coast in the Deccan. Dr. Wheeler, the then Director General of Archaeology in India was so enthusiastic at seeing the results that he expressed the hope that Kolhapur might turn out to be a key site for understanding the spread and depth of Roman influence on Indian culture of the Āndhra period. Further, Kolhapur, along with other excavated sites like Arikamedu (Pondicherry), Brahmagiri and Chandravalli (Mysore) has given a firm datum line from which we can start the investigation for the cultures preceding and succeeding the Śātavāhana culture in the Deccan.

Up to now three or four Śātavāhana city-sites have been excavated in the Deccan. Of these the one conducted by the Institute was the first in which the latest scientific method of excavation was adopted. It has given us, as said above, a rough sequence of cultures prevalent under various dynastic phases during the last 2000 years in the Deccan. Nevertheless several others—like those during the Chālukya and Rāshṭrakūṭa periods—remain unknown. To have some idea of the material cultures of these periods it is now necessary to excavate some sites, such as Mānyakheṭa, mentioned in the inscriptions belonging to these dynasties. A more comprehensive idea of Śātavāhana life—the lay-out of its rich cities, trading with Rome by sea and with inland emporia—can only be had if the sites of the period—and these are many—some partly excavated like Kolhapur, Paithan, Chandravalli,—or others not touched hitherto such as Karhad, Kalyan, Nasik,—are excavated horizontally. For this three things are necessary: a well thought out plan, co-operation from Research Institutions and Societies and Universities and last but not least financial support from the people of Mahārāshṭra. With such a concerted effort from United Mahārāshṭra it should not be difficult to reconstruct the cultural history of the past two millennia and more.

Integration of this knowledge with that obtained from similar work in other parts of India may help to solve some of the crucial problems in Indian history and culture: for instance, the time and nature of Aryan invasion, and the state of the non-Aryan cultures before such an invasion.

It was originally intended that Professor Kundangar should collaborate with the writers of this Report. He was to contribute the chapter on coins. But he retired from the State service and went over to Belgaum. In the meantime the State witnessed several changes in the Government and ultimately integrated with the province of Bombay. All this has delayed the printing of the Report which the State had agreed to publish. Its

publication has been made possible by a special subvention sanctioned by the Government of Bombay.

The Institute is indeed grateful to many scholars and administrators for the successful completion of the work and the writing of the Report, and in particular to Professor D. R. Gadgil and Mr. J. P. Naik, the then Secretary of the Development Department, Kolhapur who made the excavations possible, and to Professor Kundangar who helped in conducting the excavations. It is sincerely regretted that circumstances have prevented him from being associated with the writing of the Report, especially in view of the fact that it was he who opened the way for the more systematic and extended work. Thanks are also due to Mr. Mane, the Surveyor and the Engineers of the Development Department who occasionally assisted in the survey work and the understanding of the plans of the buildings excavated. Finally the thanks of the Institute are due to the then Education Minister of the State for permitting the Institute to study the finds in the Institute's own Museum by giving them on loan for a fairly long period.

In the preparation of this Report Professor Sankalia and Dr. Dikshit were assisted by Mr. A. C. Sekhar, Mr. B. Subbarao and Mr. Zainuddin Shaikh who was primarily in charge of drawing and photography.

31st August 1949

S. M. KATRE

SUMMARY

Excavations at Kolhapur unfold the following story.

A city of well built brick houses stood on the banks of the Panchagangā river, when the Śātavāhana (or Āndhra, according to the Purāṇas) Emperor, Gautamīputra Śātakarṇi ruled in the Deccan, about A.D. *106–130. The beginnings of this city were probably laid in the preceding one or two centuries. At that time, several contemporary and probably related ruling families: Śātavāhanas. Cuṭus, Kuras, and Mahārathis existed in this region. The city had good trade and cultural relations with the Roman world. Imported Roman objects, coins and bronze vessels for instance, were imitated in clay. It was destroyed by fire probably in the reign of Śrī Yajña Śātakarṇi. Thus ended the first Śātavāhana occupation of Kolhapur.*

But soon it was reoccupied. Over the debris of the early brick houses, temporary structures, also of brick, were erected. From the associated coins and pottery this habitation is assigned to the 'Post-Śātavāhana' period.

How long the site was then deserted, it has not been possible to ascertain. There is, however, definite evidence that it was resettled in about the 11th–12th century, during the Śilāhāra rule around Kolhapur. The houses, at this period were made of mud or mud-bricks, laid over a small rubble stone foundation. Then came the Bahmanis, the first Muslim rulers of the Deccan (A.D. *1435* –A.D. *1518*)*. The houses on the Brahmapuri site, at this period, were of similar nature as in the immediately preceding, in fact, slightly superior. This period, however, is remarkable for the beautiful polychrome glass bangles, manufactured as cottage industry on the site.*

A severe flood then seems to have submerged the western side of the mound, and laid its mud houses flat. Even then the mound sloped sharply towards the west. When Aurangzib encamped here on the way to the Panhala fort, probably in 1701, he filled the low lying areas with rubble, and constructed rampart-like walls of huge boulders over the mound. But this was a very temporary phase. Until the Christian missionaries came in 1874, the mound remained unoccupied.

The story of the Brahmapuri mound thus runs over 2,000 years. It is narrated below, first by almost a running commentary on the excavation, followed by a discussion of the stratigraphy. Coins, pottery and other objects recovered from the various layers are then dealt with in successive chapters. A full implication of their chronological and cultural importance is pointed out in the last chapter.

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CHAPTER I

THE ANTIQUITY OF KOLHAPUR AND THE SITE OF BRAHMAPURI

THAT a well watered and not heavily wooded region like Kolhapur, traversed by several rivers, should be inhabited by man from early times is indeed natural. It would be strange if he did not. Local legend and tradition have, therefore, claimed a hoary antiquity for this part of Western India.

GRAHAM[1] writing in 1854 says, "According to Purāṇas, this tract of the country was originally called 'Kurweer' (*Karavīra*) from the goddess Mahālakshmī using her mace (kur) in lifting her favoured retreat from the waters of the great deluge."

Another legend supposed to be later than the first, cited by GRAHAM[2], tries to explain the name 'Kolhāpur'. This name is derived from the fact, according to the legend, that a demon 'Kole', who lived in these parts was defeated and killed on a hill in the vicinity of the present capital.

One of the Purāṇas referred to by GRAHAM seems to be the *Karavīra-māhātmya*, which, according to a Ms.[3] of the same name, written in Śaka 1789 (A.D. 1867), is said to form part of the *Padmapurāṇa*.[4] The *māhātmya*, however, seems to be an extremely late composition got up together obviously with a view to bolster up the claims of Karavīrapura as a place of pilgrimage, rivalling and even excelling Kāśī or Vārāṇasī (Benares). It tells us that these were the twin sacred places created by Viṣṇu. Kāśī in the north, was the abode of Śiva, Karavīrapura (Kolhāpura, also known as Kollā *kṣetra*) in the south, that of a Mother (*mātṛkā*, adh. 1, śl. 34, p. 2). Viṣṇu lived at the former in the form of Śiva, in the latter in the form of Śakti (Mahālakṣmī). Therefore it is the first abode (*ādyapīṭha*) of this goddess.[5] It was called "Karavīra", because the goddess Mahālakṣmī held it up in her hand.[6] ('*kare kiṁ vidhṛtaṁ lakṣmyā muktibhuktipradaṁ-paraṁ | avimuktam iti khyātam. . .* ||). It was also known as Kollā *kṣetra*,[7] which the author seems to convert into Kolhāpura, and use it as a synonym for Karavīrapura. The river Pañcagaṅgā is mentioned as Pañcanadikā, and her sacredness extolled.[8]

A section of the *Mārkaṇḍeya Purāṇa*, called *Devīmāhātmya*, also

1 *Statistical Report on the Principality of Kolhapoor*, 1 (Bombay, 1854). 2 *Ibid.*

3 This is now in the Bhandarkar Oriental Institute, and was kindly lent to me by Prof. P. K. GODE, the Curator of the Institute. It forms part (No. 55, foll. 357) of the 1866–68 Collection. 4 *Ibid.*, adhyāya 1, p. 4. 5 *Ibid.*, adhyāya 2, p. 15.

6 *Ibid.*, adhyāya 6, pp. 21, 22. 7 *Ibid.*, adhyāya 1, śloka 51.

8 *Ibid.*, adhyāya 1, śloka 35.

refers to the Goddess Mahālakṣmī.[1] This Purāṇa, with all its accretions, is said to be not older than A.D. 800.

Another Purāṇa seems to be the *Harivaṁśa*.[2] Popularly it is believed that Karavīrapura mentioned therein is the same as Kolhapur which was formerly called so. The account in the Purāṇa is as follows:

When Kṛṣṇa and Balarāma were repeatedly besieged by Jarāsandha in Mathura it was thought that the city could no longer stand the siege, and they planned to leave the city in search for a haven. They decided to go to the Deccan, where across the Sahyādrī were two beautiful cities: Padmāvati or Karavīrapura, and the other Krauñcapura. The former city was found to be situated on the banks of the river Veṇā. Here the brothers met the famous warrior-sage Paraśurāma. The latter told them that the city was built by one of their Yādava ancestors. The ruling king rgāla, son of Vasudeva, was, however, a bad man and he therefore advised them to go with him to the Gomānta hill *via* Yajñagiri, Krauñcapura near the Khaṭvāṅgi river, and Anadu, a place of pilgrimage. Since the Gomānta hill was very steep, it would be easy to defend against Jarāsandha from there. The latter set fire to the hill and thus tried to kill Kṛṣṇa and his brother. But he failed and was later defeated. The brothers returned to Karavīrapura from Gomānta in chariots which took three days and three nights.

Sṛgāla, the king of the city, met them in a battle and was killed. Kṛṣṇa, then, at the request of the king's wife installed his son Sakradeva on the throne. From Karavīrapura they returned to Mathura, we are told, in six days.

These accounts given in the *Harivaṁśa* and *Karavīramāhātmya*, though purporting to refer to very early times cannot be accepted on their face value. In the first place these cannot be accurately dated. Even admittedly earlier Purāṇas contain a lot of later accretions. So we shall have to evaluate this Purāṇic information in the light of other accounts.

Among other literary references the most authentic and datable is that of Hemacandra (*c.* A.D. 1130), the famous Jain writer of Gujarat. In his *Dvyāśrayakāvya*[3] he refers to gifts sent by the lord of Kollāpura, who was blessed by the goddesses Lakṣmī and Gaurī, for Prince Cāmuṇḍa, the son of Mūlarāja. If the account is a genuine record of events then the antiquity of Kollāpura as a seat (*pīṭha*) of these goddesses can be placed at least 100 years earlier than the time of Hemacandra himself (A.D. 1088-1173). Almost contemporary or slightly later are the references to the

1 GODE, *QBISM*. 23, pp. 17–25. PARGITER, Introduction, p. 20.

2 *Harivaṁśa*, Ed. by D. N. BOSE (Datta Bose & Co., Dum Dum, Bengal), Ch. XCV–VI. 95, 96, 99, 100. The spelling in this book is evidently wrong. But the correct name is given by DATTA, M. N., *Harivaṁśa* p. 405 (Calcutta, 1897). In the Sanskrit edition by Shastri Ramachandra Kinjawadekar (Poona, 1936), kindly lent by Prof. P. K. GODE to me, this account is given in adhyāyas 39–44.

3 Ed. by KATHAVATE, Sarga VI, śloka 22. (*BSPS*, No. LXIX, Bombay, 1915).

place mentioned in books on architecture and iconography, *Viśvakarma Śāstra*, *Rūpamaṇḍana*, and *Devatāmūrtiprakaraṇa*.[1] All these describe in identical language the image of Mahālakṣmī at the holy place Kollāpura. These works, since they are cited by Hemādri in his *Caturvarga Cintāmaṇi* as pointed out by GODE[2], should be at least of A.D. 1200, if not earlier.

Another work, *Sarasvatīpurāṇa*[3], though not dated, refers to the events of this period. It calls Kollāpura as a great, sacred place (*mahāpīṭha*), where in the east was the goddess Mahālakṣmī, in the north Mahākālī, in the south Kollā and in the west the shrine of Kaṅkāla.[4] The Purāṇa then says that all these deities were installed by Jayasiṁha Siddharāja (*c.* A.D. 1093–A.D. 1143) on the banks of Sahasraliṅga lake.[5]

In Jain literature[6] also the place was known by a name approximating Kollāpura. Hariṣeṇa's *Bṛhat-Kathākośa*[7] which was composed in V.S. 989=A.D.931–32 at Varddhamānapura, probably Wadhwan in Saurāṣṭra refers in one of the stories to Kolladigiripattana in Dakṣiṇāpatha. This *pattana* (town) seems to be no other than Kollāpura. And as it was mentioned in a folk-story recorded in the 10th century, presumably the town must have been known by this name at least a couple of centuries before.

Another reference is of early 14th century, of V.S. 1368.[8] It too mentions Kolāpurī.

There are no references to the place in inscriptions of the early Christian Era. While the country south of the Narmadā was known by a general name, Dakṣiṇāpatha, the region round about modern Kolhapur was included at times in Karṇāṭa, Kuntala, and later the "three Mahā-rāṣṭrakas". And some of the important cities in the vicinity of Kolhapur were Karahākaṭa[9], (about 200 B.C.), (later as Karahākaḍaka[10], Karhad about 50 miles north of Kolhapur), and Vaijayantī (Vejayaṁtī).[11]

From about A.D. 500 to A.D. 750 the Western Cālukyas, having their capital at Vātāpi (modern Badāmi, Bijapur District) ruled the whole of the Deccan, Konkan and Karnatak. Some of their epigraphs mention Paḷayathāna-*viṣaya*, Vanavāsi-*viṣaya*, Kurunda, near Raktapura on the

1 Cited by KHARE, *Sahyadri*, Jan. 1936, p. 22;

2 GODE, BISM., XXIII, 17–25. 3 Cited by GODE, *Ibid.*, p. 17, and f.n. 2.

4 Where now is a lake called Raṅkālā, probably derived from Kaṅkāla.

5 Kolhāpura as a seat of the goddess Ramā (Lakṣmī) is also mentioned by Vādirāja-tīrtha (*c.* A.D. 1575) in his *Tīrtha-prabandha*. I am indebted to Prof. GODE for citing this reference from the Bhandarkar Oriental Research Institute, Government. MS. No. 622 of 1882–83, folio 8.

6 I am indebted to Prof. GODE for drawing my attention to the references cited here.

7 P. 347. Ed. by Dr. A. N. UPADHYE, Singhi Jain Series, No. 17. (Bombay, 1943.)

8 *Jainapustaka-praśasti-saṁgraha*, 40. Ed. by Jina-Vijaya Muni, Singhi Jain Series No. 18 (Bombay, 1943).

9 LÜDERS' *List*, *EI.* X. APP. No. 705, 763, 767, 809 and 1055.

10 *Ibid.*, Nos. 1195-96. 11 *Ibid.*, Nos. 1087-1125.

Malāpahāri river, Kāpura–500 in Karahāṭaka–12000, and Chipaluṇa-*viṣaya*. These territorial units roughly correspond with the area now comprised within the Phaltan and Kurundwad States, the districts of Satara, Ratnagiri, Belgaum and Dharwad. The region round Kolhapur would have automatically formed a part of these ancient territorial units. But so far there is no record of the period that refers to Kolhapur proper.[1]

Almost similar results accrue from a study of the records of the Rāṣṭrakūṭas who succeeded the Western Cālukyas and ruled over their entire dominion for over 200 years (A.D. 750-970). The territorial units, we now hear of, are Koppara-500 *bhukti*, Alaktakā-*viṣaya* (identified with Āḷata, the name of a division in Kolhapur State), Śrīmāla-*viṣaya*, the Nīra river, Karahāṭaka-*viṣaya* and Vanavāsi-12000.

It is only early in the 11th century during the rule of the Western Cālukyas of Kalyani that a reference to the place can be had. A record of Vikramāditya V of Śaka 930 (A.D. 1009-10) is issued from Koṭītīrtha at Kollāpura.[2] Jayasiṁha III, we are told, had encamped near Kollāpura in Śaka 946 (A.D. 1024)[3] and an inscription, of Somadeva, is located in the Mahālakṣmī temple at Kolhapur but does not refer to the place.[4] Next in point of time in Śaka 960 (A.D. 1078), is a reference in a grant of the Kadamba king of Goa. King Ṣastha is said to have gone to Kollāpura and worshipped there the Goddess Mahālakṣmī.[5] Henceforward references to Kolhapur occur in records of all the subsequent dynasties that ruled in the country comprising it. It was during Someśvara's regime that the Colas under Rājādhirāja invaded the Cālukyan territory as far north as Kolhapur and even claim to have set up a pillar of victory at this place.[6] An inscription of the Kolhapura Silāhāra king Gaṇḍarāditya of Śaka 1048 (A.D. 1126-7) calls Kollāpura a *mahātīrtha* (sacred place), and refers to a temple of Kheḍāditya (a Sun temple) at Brahmapurī.[7] Therein the statement that Kollāpura or Brahmapurī was created by Brahman might signify that the site of Brahmapurī was so old, that its origin in course of time was attributed to Brahmā, the lord of creation himself. The inscription mentions the capital Vallavāḍagrāma identified with Valavāḍa, the site of the present Rādhānagarī, 27 miles s.w. of Kolhapur.

Ten years later in Śaka 1058 (A.D. 1135), the same king's patronage to a Jaina temple by the name of Rūpa-Nārāyaṇa (in the present Shukrawar Peth) at Kolhapur is referred to in an inscription located in the same temple.[8] Similar patronage was shown by Gaṇḍarāditya's son Vijayāditya

[1] Reference to Kollāpura in a spurious grant of Vinayāditya is naturally omitted here. For this inscription see *B.C. Law* Volume I, 570–73.

[2] *IA* 16. 24, l. 24. [3] *EI* 12. 313, l. 66.

[4] *JBBRAS* II (1845). 272.

[5] DIKSHIT, *Selected Inscriptions from Maharashtra* (in Marāṭhi) 46–68; also *JUPHS* XVIII. 175.

[6] *CHI* III. 472. [7] *EI* 23. 28,

[8] *EI* 19. 30, also *JBBRAS* II. 266.

towards the (same) temple of Pārśvanātha at Kṣullakapura (that is, Kolhapur) in Śaka 1065 (A.D. 1143).[1] For about 50 years or more Kolhapur and the adjacent region was under the Śilāhāra dynasty, as an inscription found in the city mentions Bhoja II, who, in Śaka 1112-15 (A.D. 1190) was staying at Praṇālaka or Pannāladurga (the present fort at Panhālā, 12 miles from Kolhapur) and refers to the shrines of Mahālakṣmī and Umāmaheśvara. These temples are again mentioned in an inscription of Śaka 1104, preserved in the compound of Mahālakṣmī temple.[2]

Kolhapur was thus connected with the Śilāhāra dynasty for nearly 65 years (A.D. 1126-90), and might have been their capital, though it is never expressly called so.

Singhaṇa then defeated the Śilāhāra Bhoja at Umalvād in A.D. 1210. The city and its temples however continued to receive the patronage from the successors of the Śilāhāras, viz. the Yādavas of Devagiri. In fact, it appears from an inscription of Śaka 1194, that the first king of the dynasty Siṁha had his original seat of power near Kolhapur at Mirijaya (Miraj),[3] while two earlier inscriptions, not yet fully published, of the kings Mahādeva and Nārāyaṇa, dated Śaka 1162 and 1172 respectively, refer to the temple of Mahālakṣmī at Kolhapur and the district (*deśa* or *viṣaya*) of the same name.[4] The Yādavas held the place and the adjacent country for at least 15 years more, until Śaka 1187 (A.D. 1265), as is shown by an inscription of Mahādeva.[5] Their sway over this part of the Deccan might have continued till the very end of the rule (A.D. 1306-7), when it was conquered by Malik Kafur.

Whether the Delhi Sultan or his general Malik Kafur ever went to and actually conquered Kolhapur is not known. Probably he did not. For we are told that Bahman Shah, who soon after established the Bahmani kingdom, first at Gulbarga and later at Bidar, on his way back from Konkan took Karahad and Kolhapur from their Hindu rulers.[6] Later Mahmud Gāvān, under Muhammad III, is reported to have taken shelter at Kolhapur, while fighting in the Sahyadris in 1469.[7] After having defeated the Hindu king Shankardev who was in possession of Vishalgadh, he appointed his own officer to govern Goa and the territory including Kolhapur and Panhala. Later it was usurped by one Bahadur Gilani, and Mahmud Shah Bahmani II had to reclaim it and bestow it upon Ain-ul-Mulk Gilani. Thus the region had passed under the Bahmani suzerainty.

Contact with these rulers in some form or other is actually revealed by the discovery of Bahmani coins in the upper strata of our excavations, and some articles, including highly finished glass bangles, showing a strong

1 *JBBRAS* II. 266, *EI* III. 209.
2 DIKSHIT, *Selected Inscriptions from Mahārāṣtra*, 73–80.
3 *JBBRAS* II. 265. 4 *JBBRAS* II. 264.
5 *SMHD* 3. 21, *QBISM* 15. 4. 115, *INKK* No. 19, 154.
6 *CHI* III. 375. 7 *Ibid.*, 414.

Iranian Muslim cultural influence over the area. A small colony of artisans might have been staying in the mud-houses built over the debris of similar houses of the Yādava-Śilāhāra period.

On the dissolution of the Bahmani empire Kolhapur and the country around passed on to the Adil Shahi Kings of Bijapur. Ibrahim Adil Shah I (A.D. 1534) and II (A.D. 1580) took a lot of interest in Panhala and its fortifications. This is shown not only by the Persian inscriptions left by them, but also by the architectural style of the monuments at the place. Kolhapur proper has little of Bijapur influence, nor anything of this period has been found in our excavations.

Shivaji's early days were spent among these forts of the Deccan (and Konkan?). And it was by ousting the Bijapur governors and generals by strategem and prowess that he laid the foundation of an independent Hindu State in 1659. While in this region, his headquarters were at Panhala. Aurangzib is supposed to have temporarily encamped on the Brahmapuri mound[1] on his way to Panhala in the early months of 1701. This is extremely probable. The mound is favourably situated. Being over 30 ft. high it overlooks the Panchganga valley, and one may see with a binocular as far as the Panhala fort. This facilitates scouting for defence and offence, whereas the necessities for a vast camp can be had from the city and the adjacent fields, and water from the river below the foot of the mound. A coin of Aurangzib found in the second layer under a wall of large roughly dressed wall confirms this tradition from the present excavations.

Shivaji's capital was, however, at Raygad. So when Rani Tarabai established the Karavira kingdom, her capital was at Panhala. It was only in 1788 that Shivaji II made Kolhapur his capital. Its history since that date is well known.

The travellers' accounts throw much less light on the antiquity of Kolhapur than inscriptions and other historical records.

Of the early Greek geographers and travellers, Pliny and the author of the *Periplus of the Erythrean Sea* give a good account of the trade of the Western Coast of India with Rome. Even ports like Kalyan, besides Barygaza (Broach), inland towns like Paithan, and kings Sātakarṇi and Pulumāyi have been mentioned. But among these Kolhapur, or the place known by its earlier name, does not figure. The Alexandrian Greek Ptolemy's (*c.* A.D. 150) mention of Hippokoura, the capital of Baļaekouros was once believed to stand respectively for Kolhapur and its ruler

[1] The dargah, which stands to the south of the Christian mission church on the Brahmapuri mound, had some lands in *Inam*, enjoyed by the Moozawar since the time of Aurangzib. Some of these sanads were shown to Dr. DIKSHIT while we had encamped at Kolhapur. However it must be remembered that the Brahmapuri where he had camped for a long time was on the Bhima in Sholapur District. It should not be confused with the Kolhapur Brahmapuri.

Viḷiyāyakura[1], whose coins had been found at the place. While it is possible to equate philologically Balaekouros with Viḷivāyakura, Dr. KATRE, who has kindly examined the question linguistically, is definitely of the opinion that Hippokoura cannot be so equated with Kolhapur. So even Ptolemy's excellent account of the West Coast, including as it does the parts immediately west of Kolhapur, fails us as regards Kolhapur proper.

Five centuries later (*c.* A.D. 640) Hiuen Tsiang[2], the famous Chinese traveller, passed through Mahārāṣṭra and Koṅkan, but there is no reference to Kolhapur or other cities in his account.

Several Arab geographers, from Sulayman (*c.* A.D. 850) to Abul Fida (A.D. 1273-1331), describe the Western Coast of India, but there is no reference to Kolhapur.[3] Ibn Battuta (A.D. 1325-54) went as far as Daulatabad from Delhi, and then *via* Gujarat and Kathiawad sailed straight for Goa from Gogha.[4] He thus by-passed Kolhapur.

So also the Italian traveller Marco Polo (A.D. 1254) seems to have skirted the West Coast without going into the interior.[5]

Other European travellers who visited the Court of Vijayanagara also appear to have missed Kolhapur. This fact is actually mentioned by HAMILTON, who seems to be the first Englishman to visit the place. In his account[6] he includes 'Colapoor' in the 'Bijapoor province', which according to him, was one of the nine 'modern' divisions of the Deccan. Among the principal towns of the 'province', this town is mentioned. He has to record, however, that 'though the place has long been a town of considerable note', it has not been visited by any traveller. Then came GRAHAM. He was the political resident of the Southern Maratha States of which Kolhapur formed the principal and the largest unit. Taking a much wider interest than his office demanded, but using his opportunity, he has left one of the finest accounts—the only one—not only of the city, but of the whole state.[7] The *Gazetteer*, it may be said, is mostly based on his detailed information. The development, particularly civic, since then (1854 upto 1944) has been ably dealt with by Mr. J. P. NAIK.[8]

When the legendary, Puranic, literary and epigraphical accounts are compared it would appear that the site of the modern Kolhapur, long before the city, now unearthed, grew up on the banks of the river, known at present as Pañcaganga, was called 'Kollāpura', probably after the goddess

[1] BHANDARKAR, R. G., *EHD*, 43–44. But it must be noted that BHANDARKAR only identifies the country in very general terms.

[2] BEAL, *Buddhist Records of the Western World*, II, 253–59.

[3] NAINAR, *Arab Geographers' Knowledge of Southern India* (University of Madras, 1942).

[4] GIBB, *Travels of Ibn Battuta* (London, 1939).

[5] YULE, *Travels of Marco Polo*, (London, 1903).

[6] HAMILTON, Walter. *Geographical, Statistical and Historical Description of Hindoostan and Adjacent Countries*, II. 225 (London, 1820).

[7] GRAHAM, D.C., *Statistical Report on the Principality of Kolhapoor*, (Bombay, 1854).

[8] NAIK, J. P., *Kolhapūr Nagarpālikechā Itihāsa*, (Kolhapur, 1944).

Kollā, referred to by the *Sarasvatīpurāṇa* and the *Karavīramāhātmya.* She might have been so called because she was the deity of aboriginal tribes such as Kols or Koḷis mentioned in the legend cited by GRAHAM. So, from very early times the site came to be known as a seat of a Mother Goddess (*matṛkāsthāna*, *kṣetra* or *pīṭha*). It grew in importance when another goddess, Mahālakṣmī, was installed in the city and a temple built there during the Rāṣṭrakūṭa period (*c.* A.D. 800). For the earliest epigraphical and literary records known hitherto cannot take us before the 9th century, and the temple architecturally also is of the period and not earlier. They all unanimously call the city Kollāpura, and describe the goddess Mahālakṣmī. It is also significant that there is no reference to Kollāpura, nor to the goddess Kollā or Mahālakṣmī in the *Harivaṁśa.* It merely mentions Karavīrapura. And it is difficult to say whether the Karavīrapura mentioned therein actually refers to Kolhapur. For in the topographical description there is no reference to the river Panchaganga or her earlier namesake. Only the mountain Sahya, the river Veṇā, (Kriṣṇa-Veṇṇā?), and the cities Karavīrapura, Krauñcapura and Gomānta hill occur. The reference to the river Veṇā suggests that the city referred to is probably Karahāṭaka which has the first syllable *kara.* Kolhapur seems to have been hit upon because the king Sṛgāla of the city was turned into the Prākṛt Kolhā (from Sanskrit Kroṣṭu[1]) and his city later called Kolhāpura.

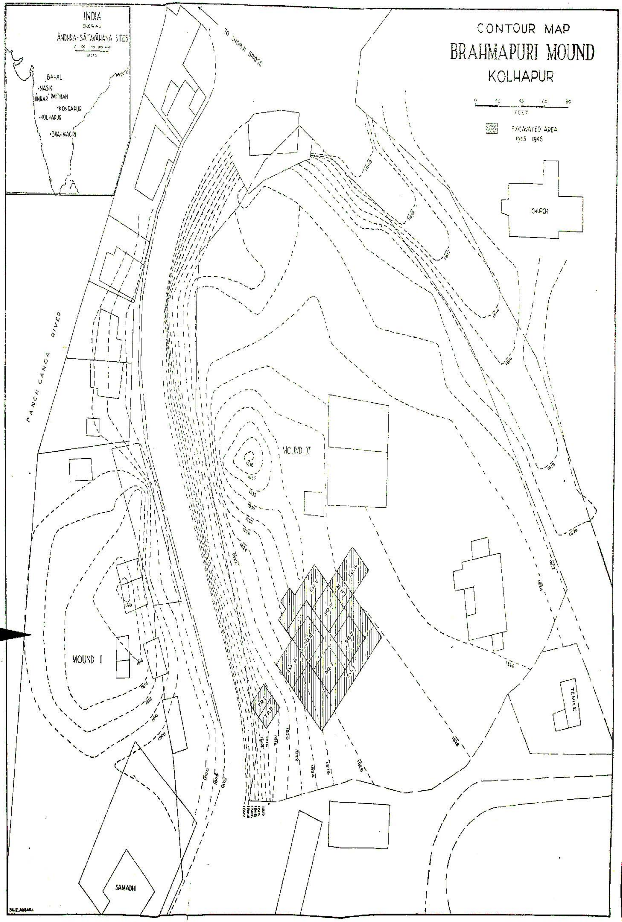
It was this account which was later enlarged by the *Karavīramāhātmya*, which definitely identified Karavīrapura with Kollāpura and Kolhāpura and sought the fanciful description of the former. The original substratum was the word *kol*, or *kolla* or *kollā.* It may be a non-Aryan, Dravidian or Austric word.[2] KHARE[3] compares it with some other words, *kolla*, *kholla*, *golla*, meaning "low ground" and suggests that it may be from the Kannaḍa.[4] It is pointed out that this interpretation would suit the topographical features of the place.

Whatever the origin of the word and the place, it appears from the inscriptional evidence and archæological excavations that Kolhapur had in the past two periods of prosperity. The first was under the Sātavāhanas who turned it into a city having well built brick-houses out of a modest village. After an interval of some centuries the Śilāhāras built magnificent temples there. These continued to be patronised by the Yādavas. Then came another period of depression which lasted for well-nigh four centuries. From this it was uplifted by Shivaji and his descendants. These have under varying fortunes upheld its independence until this day.

[1] According to Dr. S. M. KATRE. [2] *Ibid.*

[3] *QBISM, XV. Sources of the Mediaeval History of the Deccan*, III, 20–1.

[4] Cf. SHASTRI, *JBBRAS* II (1845), 268 who derives it from the Sanskrit '*kulhar*', or Kannaḍa '*Kolihu*', both of which, according to him signify a lotus. In this connection the name 'Padmapura' given in the *Harivaṁśa* may be considered.


CONTOUR MAP
BRAHMAPURI MOUND
KOLHAPUR
FEET
EXCAVATED AREA
1945 1946
INDIA
SHOWING
ĀNDHRA-SĀTAVĀHANA SITES
NASIK
PAITHAN
KONDAPUR
KOLHAPUR
TO SHIVAJI BRIDGE
CHURCH
PANCH GANGA RIVER
MOUND II
MOUND I
TEMPLE
SAMADHI
SH. Z. ANSARI

CHAPTER II

EXCAVATION AND STRATIGRAPHY

THE OBJECT OF THE 1945-46 EXCAVATION

BRAHMAPURI is the name of the area (mound) in the western part of the city of Kolhapur. It is situated on the right bank of the Panchaganga river. Ever since its antiquity was revealed in 1877,[1] antiquarians were interested in the history of the site. The immediate cause of the excavation described here was that in 1944 Prof. K. G. KUNDANGAR, of the Rajaram College, Kolhapur, had in his small trial excavations on the western side of the original mound (called here Mound I) obtained a Greek-like bronze figure, bronze vessels and other interesting objects.[2] Owing to the fact that this part of the mound was very much disturbed by earth and brick grabbers and not much of later desposits had remained, it was difficult to have a stratigraphic relation of these objects, and appreciate their full cultural significance.

Our object, therefore, was to obtain such a context not only for the earlier Indo-Greek or Roman finds, but to obtain, if possible, a sequence of cultures, representing the little known historical periods of the Deccan. And, if we were lucky, to strike a pre-Mauryan, if not a pre-historic, culture.

As our object was to get a sequence of cultures, we selected, what is called here, Mound II, an elevated area, immediately to the east of Mound I. It is considerably higher than Mound I, its highest point—the bench mark—being 1836·22 ft., in height, while that of the latter 1813·44 ft., above the mean sea-level. The mound is about 50 ft. above the average water-level in the Panchganga river, and about 40·35 ft. above the surface of the rock (as shown by the excavation).

The mound has a gravelly, stony surface covered here and there with little grass and a few trees and slopes from north-east to south-west. Westwards it slopes steeply towards the Ratnagiri road; the eastern slope is gentle towards the road, opposite the church. At present it is inhabited. There is a small bungalow owned by the Presbyterian Mission on the northern side, and servants' quarters on the eastern side. These left a comparatively small area, about 100 ft. × 100 ft., for our excavation.

Since one of our objects was to place the buildings unearthed in Mound I in their proper stratigraphic context, the exact site selected on this mound was nearly at an angle of 30°, to the walls of buildings earlier excavated on Mound I, so that in case there was a continuation of these walls we could expose two different sections of their sides.

[1] For details see *JBBRAS XIV*. 147–54. *BG. XXIV*. 218. [2] See *Pl. XXXIII.*

At first we laid out a rectangle 45 ft. × 20 ft. This was divided into two squares of 20 ft. each, with a passage of 5 ft. in between. Later the rectangle was enlarged northwards to include two more squares. Then it became a square 45 ft. × 45 ft. Even this had to be extended in various directions. So at the end the area under excavation on the mound proper was 95 ft. N.-NE. to S. SW. by 75 ft. E.-SE. to W.N.W. and divided into four squares of 20 ft. each and five extensions.

METHOD OF DIGGING AND RECORDING

The area was surveyed and photographed. The method of digging was by removal of each layer of soil and then proceeding to dig the next layer. For testing the succession of underlying layers, digging was first begun in a corner of a subsquare. For recording the exact location of an object in each layer, a common datum line was fixed for the whole square and (later for other extensions), with the help of a spirit level. And each square was subdivided longitudinally and latitudinally. Thus it was easy to locate an object by recording its vertical depth, and distance from the nearest point (peg) in the square. Almost all finds have been so recorded in the field register, though in the account of the finds discussed in the report, only the layer and the vertical depth have been mentioned.

THE SUB-AREAS AND THE LAYERS EXPOSED WITHIN THEM

Square I

Here a succession of 6 or 7 well marked layers or strata, distinguished by the colour and content of the soil were exposed, until we reached the debris of the brick-buildings, which on numismatic evidence are dated to the Sātavāhana period (B.C. 200–A.D. 200.)

The topmost layer was a thin layer of humus.[1] On its removal gradually came to light a rubble layer consisting of large and small stones and getting deeper on the western side. This rubble filling rested on a similarly western-sloping layer of red sticky mud. It made digging very difficult. Except solitary pieces of bones and potsherds, and occasionally a bead, nothing was found in this layer. So far no signs of habitation were met with. But as soon as the red sticky layer was disposed off and we touched a layer of light brown earth, lots of potsherds, pieces of glass bangles, other objects and occasionally copper coins began to appear. At times there were patches of lime and ash. However, the most predominant aspect was the light brown earth, called in Marathi 'Pāndharī Māti'. It is interesting to note that popularly such a soil is always associated with human habitation. It even fetches more price than other soils, (probably, because of its phospheric content, it forms a better and richer manure).

[1] See Fig. 1.

However, no remains of buildings were sighted, except a little stone wall in the northern corner between D/15 and C/20. This seemed to form a part of the structure in the adjoining square (III) and was therefore left intact.

Towards the end of this layer, the soil began to be distinctly porous, and ashy and dirty brown in the middle of the square. This was due, it appears, to a kind of hearth or maybe a furnace. For in this shallow ashy pit were found some intact earthen-pots and bricks. But in spite of the careful clearing of the area, and recovery of some more pots, no furnace or potter's kiln, as suspected by us, appeared. Instead the soil began to appear reddish. Soon we realized that we had reached a new layer, its reddish colour being due to broken brick-bats. At first these looked like solitary pieces, but soon large debris of them were sighted. On clearing these off, stood before us the broken walls of a brick-paved kitchen. The floor was further cemented with red clay and cow-dung. At one corner were two *chūls* (of three large pebbles), having clay borders to collect the ash, and at the other corner was a built-in storage jar.[1] Besides coins, some distinctive pottery was found on the kitchen floor.

This kitchen occupied approximately the northern side of the square. Remains of other rooms (probably of the same house) and a passage between the two had also been exposed on the southern, western and eastern sides.

To know, therefore, the ground level of this complex of buildings, and to see whether any buildings of an earlier period lay buried under them, we started digging between what looked like a passage between the kitchen and the rooms on the opposite or the southern side.

At first we met with a layer of sticky black clay. While clearing it a number of semi-polished, red and black potsherds of a rimless bowl, lead coins, a complete iron hunting-knife resting on a clay jar-cover (*thavkā*) were found. Below this clay was sticky brown clay. It too yielded a gold-gilded glass bead, a collared glass bead, two lead coins, etc. This clayey layer was found to rest on flat slabs of stone.[2] This raised a new problem. We had to ascertain whether these were the floor level of an earlier structure or whether they were laid there to make an even foundation on which to dump the earth on. For ascertaining these facts, we had to dig in other parts of the square, and remove the structures above. On so doing almost the same succession of black and brown sticky clay layers were observed, the finds also being of the same nature—lead coins, gold leaf, bones, polished black and red potsherds. It was noticed that the slabs of stone did not cover the whole floor level of the square, but were only in its centre and on the eastern side.

The next stage was to inquire whether these formed any kind of a wall of an earlier period but was later buried. Digging around them showed that they did not form a wall.

Lifting up the stones, there were found bones, a crushed skull, teeth

[1] See Pl. X. A. [2] See Pl. X. B.

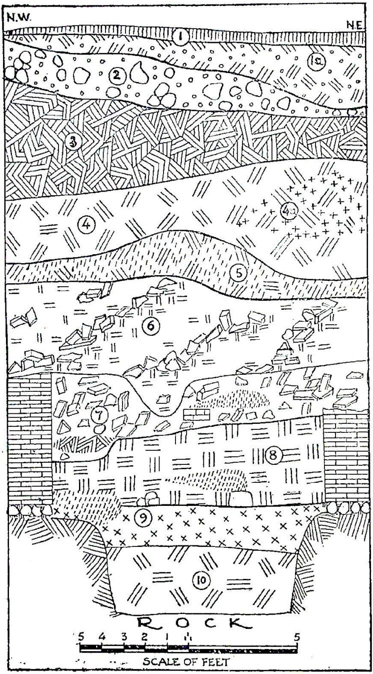


FIG. 1

SQ. I. SECTION OF THE NORTHERN WALL

SYMBOLS USED IN SECTIONS
HUMUS
GRAVEL & LOOSE-EARTH
SOFT-BROWN EARTH
SOFT GREY EARTH
DARK-RED STICKY CLAY
RUBBLES
BRICK-BATS
RED STICKY CLAY
SOFT-RED EARTH
RED-EARTH
YELLOWISH ASHY BLACK SOIL
ASHY EARTH
LIME
POT-SHERDS
MURUM

FIG. 2

and extremities of a dog (?), and a gold chain pendant. Evidently some kind of foundation ceremony was performed, for which an animal was sacrificed.

The layer of dark brown sticky clay continued a little below the stones, but it was found now mixed with lumps of laterite. This layer was replaced by a layer of reddish brown and greyish porous earth. This is supposed to be due to the disintegration of the trap rock, and so it seems to be, for immediately the rock itself was struck[1] (in the western half to which we had confined our deep digging). Very few potsherds, a few bones and rodent teeth were found in this layer.

Square II

As in sq. I, the topmost layer was of a thin layer of humus. Below it was noticed the rubble filling. But its depth was not uniform everywhere.

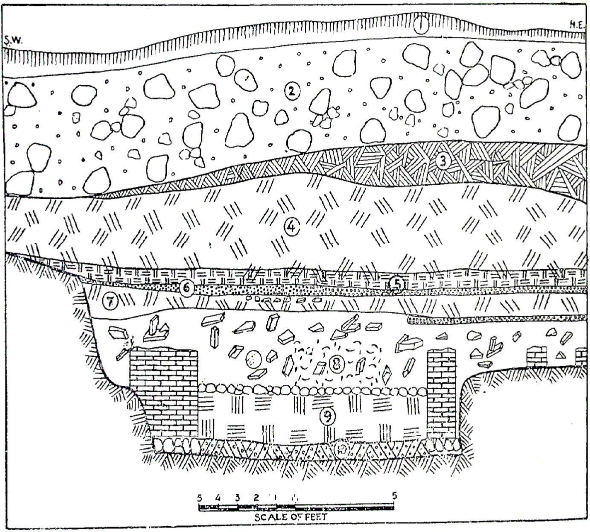


FIG. 3. SQ. II. SECTION ON THE WALL FACING SOUTH-EAST

[1] See Fig. 1.

On the northern side, it was comparatively very shallow, whereas, it was thick, over 5 ft. on the southern side. This filling was found to cover two walls of roughly dressed stones running NW-SE.

To see how these walls ended, the square was extended eastwards (called Ex. I, and IV). It appeared that the bigger wall A ended at F/20, whereas the smaller wall B extended further into Sq. III.

These rubble fillings and the walls rested on sticky brown clay. But it was observed that this clayey layer was getting thinner eastwards and did not appear at all in the eastern wall of Sq. II.

Except a few bones etc., this clayey layer did not contain any other objects, as in Sq. I. Its removal brought to light the layer of Pāṇḍhari Māti. But unlike in Sq. I, we obtained here a few remains of habitation, a corner of the rectangular foundation walls and a hearth with an earthen pot standing on it.

Two more remains of habitation (structures), one partly resting over the other, were noticed at the junction of Sq. II and IV, in the same layer, while in Sq. II proper, a well made rubble foundation of a long rectangular room was uncovered.[1] The finds obtained from these structural layers are similar to those found from the Pāṇḍhari Māti layer in Sq. I. Glass beads and bangles predominate. There were also a few other outstanding objects, such as a steatite *liṅgam*,[2] dice and the gold pendant set with rubies.[3]

As there were several structural layers in this and the adjoining square, we tried to find out if there were corresponding natural layers. But only at one place (eastern wall Sq. II) it appeared that the Pāṇḍhari Māti layer could be split into two, an upper (light) brown and a lower (dark) brown earth.

On the clearance of these layers, a reddish earth similar to that in Sq. I, came to view. This yielded a number of distinctive potsherds of a beaded ware.[4] Other finds were iron nails and beads.

Below this, instead of finding the remains of a structure, we found traces of three lime-concrete pavement with a number of holes which looked like post-holes. The pavement rested on a thin layer of brick-bats.[5]

These pavements covered almost the whole square, except the portion on the western side, where remains of brick structures were uncovered.

When these pavements were dug out, (leaving a small section to give an idea of the structures of different periods), remains of three houses of the Sātavāhana period were exposed.[6] In these houses, as in Sq. I, traces of fire, charred rice, husk, nails and distinctive pottery, all red, and polished

[1] See Fi. 8 [2] See Pl. XXXI. C. [3] See Pl. XXXII. B.
[4] See Pl. XVIII. 7-8; [5] See Figs. 3–4. [6] See Pl. VIII

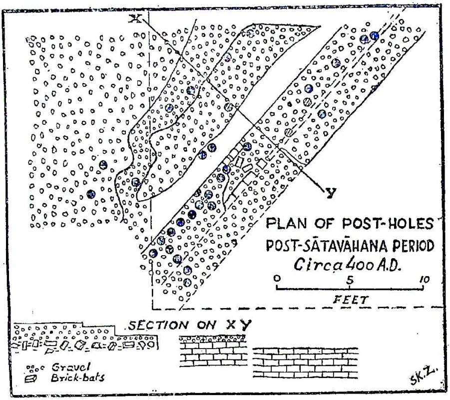


FIG. 4

SQ. II & EX. I. PLAN AND SECTION OF THE POST-HOLES

black and red were gathered. Those of thin red ware were comparatively few.

Further digging was stopped, as there was no time nor funds to undertake deep digging in all the squares.

Square III

Little deep digging could be done in this square. The topmost layer as in other squares was the humus with rubble. Below this, at places was large and small rubble, more towards the western and southern side, and less on the eastern and northern sides. In the north-western corner, it appeared that the rubble was well arranged into a landing. The succeeding layer was of red sticky clay. This was also not uniformly thick everywhere. It yielded a few bones. The soft brown earth layer, which followed, exhibited three almost parallel walls at different levels, all running northwest-southeast and only one cross wall, which went at right angles to these, but did not touch them. To understand the full significance of these walls, two extensions, one to the west of Sq. III, viz. (Ex. II) and another to its north (Ex. V) had to be opened. This move, however, did not succeed. The other ends of the walls were not found. It appeared later that these northwest-southeast running walls formed

part of the ground plan of the buildings of the Bahmani and Śilāhāra periods respectively.

The wall to the south was found paved with mud-bricks. In the small triangle made by it and the southern and eastern walls traces of a kitchen—a *chūl* (hearth) and a rotary quern were found.[1] Lot of pottery—a few complete pieces,—were also gathered from this triangle and other parts of the square. Among other finds were a coin (No. 1195) and a number of beads and bangle pieces, and a key.

Until the full significance of these walls could be known they had to be retained. So deeper digging was not possible. When their significance was known, the digging season came to an end.

Square IV

In this square too not much digging was possible. The topmost layer was full of murrum, jaspery stones, with a little humus. Hardly any rubble was noticed below it, nor was there the layer of sticky brown clay. The layer of soft brown earth (Pāṇḍhari Māti) rested immediately below the humus-murrum deposit. In it, almost from the top, were noticed walls made of roughly dressed stones[2] and bricks cemented with mud. Other signs of occupation, such as pounding stones (*ukhala*), pots, coins, beads and bangles were also obtained.

Below these walls, in the same layer lay the walls of an earlier period. The ground plans of both these structures are almost identical.

Still another occupation level was sighted when remains of both the earlier periods were removed. Only a part of a wall and a pavement had survived and the whole ground plan of this period could not be recovered.

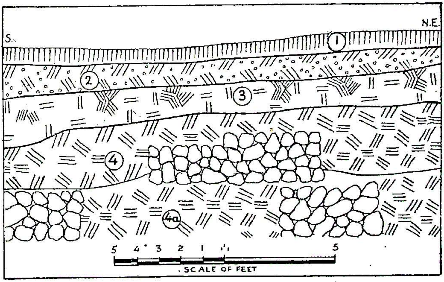


FIG. 5. SQ. IV. SECTION ON THE NORTHERN WALL

[1] See Pl. IV. A. [2] See Fig. 5.

The soil below all these structures continued to be brownish, but now in some parts, particularly in the western, it was becoming distinctly ashy-brown. Until the close of the season, this section continued to yield ashy soil. It appeared that an ash-pit of the III habitation period was situated there. A few pots and a crude terracotta figurine were the only important finds from the so-called ash-pit.

In the eastern section, however, the reddish earth and brick-bats appeared and below these the brick-buildings of the Sātavāhana period.

Extension I

Extension I was laid, as said above, with a view to tracing the plan formed by the walls *A* and *B* in layer 2 in Sq. II. Subsequently for a similar reason it had to be extended northwards and then eastwards when other walls turned up in layer 3 in Sq. II and Sq. IV. These were accordingly called Extensions III, IV, V.

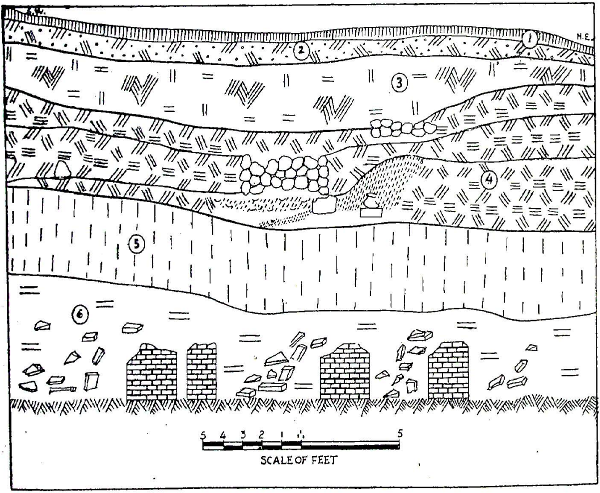


FIG. 6

EX. III. SECTION ON THE NORTHERN WALL

The digging in these extensions, besides explaining the plans of the structures exposed elsewhere, also confirmed our idea about the formation of the mound. The uppermost layer as elsewhere was humus and red murrum and road metal. Below that in Ex. I, there was a thick filling of rubble, but hardly any of it in Exs. III, IV and V. Again there was no trace of the red sticky clay deposit in all these areas. But when the murrum etc. was cleared off, the Pāndhari Māti layer appeared. Except a small brick platform no structure was found in this, layer 3, in Ex. I, but in Ex. IV, a number of very badly preserved walls of roughly dressed stones and mud, of two or three periods, were noticed.[1] A nice small room[2] of well-dressed stones was exposed in Ex. V at its western end, while remains of a drain[3] of the latest period were seen adjoining Sq. IV.

Remains of a kitchen—charred rāgi and rice, pots and a *chūl* were found in Ex. IV below wall of period I. A pottery 'pit' was uncovered in Ex. III. Except a few large iron objects, such as an axe and agricultural implements, other finds consisted of beads and bangles and a few coins.

On the clearance of the debris of layer 3 and the structures contemporary with it, a layer of reddish soil appeared. Below it in Ex. III and IV were brick-bats and the remains of the Sātavāhana houses.[4] For want of time digging upto this layer was not done in Ex. V.

Extension II

Extension II was laid out with a view to understanding the plan of of a structure indicated by the SW-NE wall of dressed stones in Sq. III, and a drain-like arrangement found at its base. No traces of this structure however were found in the area enclosed by Ex. II.

The topmost two layers were made up by humus-murrum and red sticky clay respectively.[5] It is to be noted that the filling of large and small rubble between these two layers as observed in Sqs. I, II and III was generally absent here with the exception of two patches in the southern wall. The Pāndhari Māti formed the third layer. In the southern wall was part of a roughly dressed stone wall. Below this was an ash layer mixed with brown earth. It was thickest in the western wall, while in the southern and northern walls it was comparatively thinner. In the northern wall again there was intercalated between it and the Pāndhari Māti, a layer (the full length of which could not be known as the portion to the west remained unexcavated because of the presence of steps) of light red earth and charcoal. In the eastern wall, C′ 45-A′ 25, a number of thin layers of ash were observed. This indicates that this portion probably formed an ash pit of a habitation within the Pāndhari Māti layer.

[1] See Pl. III A. [2] See Pl. III. B. [3] See Pl. II. B. [4] Fig. 6. [5] See Fig. 7.

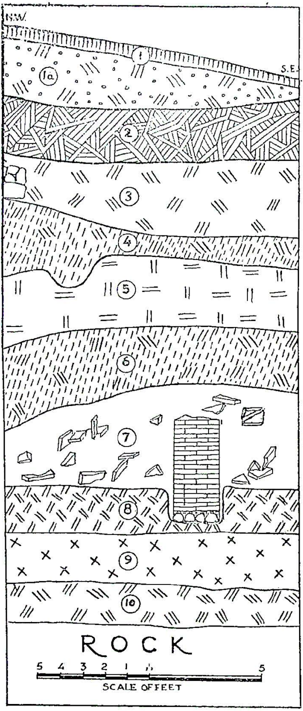


FIG. 7

EX. II. SECTION: SOUTH WESTERN CORNER

As elsewhere this layer yielded a large number of glass bangle pieces and beads, glass slag, a few terracotta beads of different kinds, pieces of grinding stones and a large amount of potsherds.

The succeeding ashy layer showed a few traces of a brick structure towards the northern wall. From it were also collected a saddle quern of stone, ivory bangle pieces, part of a high-necked, deep red, earthen pot, grains of charred Rāgi, a copper object and iron nails.

The principal deposit, next, was a layer of soft reddish earth. But in the western side this was tinged with grey and whitish ash. A number of terracotta beads were found in the reddish earth. Under it everywhere were heaps of pulverised brick at varying depths. On their clearance brick walls were visible on the eastern, northern and southern sides. On the northern side the structures were at two different levels, the upper one probably built after the lower one was constructed. For it had its own foundation of pebbles and sticky clay.

The upper wall formed a small triangular room with the northern wall of the extension and the steps. While clearing the brick debris in this room-like portion, a small loṭā-shaped earthen pot[1] filled with absolutely fresh-looking rice husk was found. But a touch reduced it to powder. A copper coin (No. 2282), heavily rusted, was also found there.

Remains of other brick structures were exposed in the eastern wall and large undressed stones in the eastern corner. The area between these structures was composed of dark yellowish ashy-blackish soil. When this was dug out an oven-like structure of bricks came to light. Some coins of lead and copper, bones, charred cloth, a piece of limestone, burnt wood, tamarind seeds, beads of bone and glass, a tiny gold leaf, glass slag-like chunk, polished brown potsherds—some extremely fine and thin, called 'steel'-like, were among the notable finds from this oven-like structure. The surrounding layer also yielded a large amount of bones, at one corner—western—remains of a whole (?)[2] deer, a few coins, polished potsherds and glass beads.

Below the dark yellowish-black sticky soil was a layer of sticky brown clay. In it too were found a few lumps of laterite and iron objects, a broken comb of bone, bone points, lead and copper coins and a glass bead, and bones.

This layer rested on a layer of soft brown earth. It yielded a few polished potsherds, teeth, a nodule of carnelian, glass slag (?), and a biconical carnelian bead. Beneath this was the trap rock.

Trial Pits I and II

Besides the main diggings described above there were two more, called 'Trial Pits I and II'. These were situated on the western slope of the mound. They were 'Trial Pits' in the sense that the object in starting them was to find out whether any brick structures indicated by surface exposures on the slope were really contained within the mound, and whether they belonged to the ātavāhana period. Otherwise they were dug as systematically as the area selected for digging originally.

[1] See *Infra*, Pottery type 23*a*. [2] See Pls. XII; XIII. A.

A part of the middle portion of Pit I really turned out to be a pit of ash, charcoal dust etc. To begin with there was a very thin layer of humus. This rested immediately on a layer of soft brown earth. Beneath it the soil was ashy. In it were found a few bricks, so laid, that it appeared that there might have been a small temporary structure. From it were also collected a number of *ṭhāvkās* (jar-covers, and jar cover-like vessels), and sherds of a pot with raised jack-fruit decoration[1], and numerous charred shells. Then followed a number of ash and charcoal dust layers, all sloping towards the north-east. But towards the south-west and south, a brick structure was uncovered after the removal of the brick debris. The ash-charcoal-dust layers yielded besides charred shells, steatite pencils, a saddle quern, remains of a *chūl*, terracotta beads, burnt rice, nails, and bones.

In the south-west corner below the brick debris were found a lot of ash and charcoal mixed with rice and a large amount of potsherds, particularly broken tiles and charred nails. Beneath the debris was seen a broad brick-wall (of a room). Below the wall on either side was a layer of yellowish black cow-dung like sticky soil. The most important find was a complete, richly decorated, apparently nude female terracotta figurine,[2] beside a collared bead and a Sātavāhana coin (No. 1833).

The digging was now primarily outside the wall. Here the yellowish black layer was replaced by a layer of dark red sticky earth. Two tiny copper coins, Nos. 1852, 1855, very much corroded, were found in it. This earth was found laid on large undressed slabs of stone[3], while the brick structure rested on a course of large pebbles cemented with sticky black and red clay.

When the rubble stones were removed, once again a layer of yellowish black soil came to light. A number of bone points, terracotta, carnelian and glass beads, a few black polished potsherds, lumps of laterite and bones were found in it. Slightly different coloured—blackish—soil was noticed below the above layer. It too contained a number of terracotta and other beads, bone points, terracotta horns of a bull, glass pieces and bones. Beneath it the soil was brownish and it rested on a layer of roughly dressed stones placed together and ramped from above[4]. Once again below the stones was a layer of dark brown sticky earth. It was full of lumps of laterite. A few potsherds, extremely coarse on outside, were found in it. Under this sticky clay the soil was soft and brown. It yielded a bone dagger handle (No. 3278), coarse glass bead, a few black and red polished potsherds. The basal rock was exposed when this was cleared off. Three polished potsherds and glass slag (?) were found lying on it.

Pit II was on a slightly higher level. It was in a sense the extension of Pit I, necessitated for understanding the significance of the brick wall exposed in its south-western side. In this pit below the humus there was a layer of sticky red clay. Then came the layer of Pāṇḍhari Māti. A tiny

[1] See Pl. XVII. B. [2] See Pl. XXI A-B. [3] See Pl. XI B. [4] See Pl. XI C.

crucible with gold encrustation was found in it. The Pāndhari Māti layer was ashy towards its base. Below it a reddish earth layer appeared. A bead with golden core, a rectangular bead, the neck of a large vessel, a terracotta tiger nail (?) were found in it. On the clearance of the reddish earth layer, brick debris emerged. Basketful of potsherds, *ṭhāvkās*, charred nails, charred stone mould[1], torso of a fine male figure,[2] a terracotta pendant[3] and beads, conch shell bangle pieces, gold leaf, and a lead coin came out from under the debris.

Below the debris the soil was soft, dry, brown. A small silver plaque having the figure of a two-armed goddess[4] was found in it. The layer below this was sticky black clay. It yielded a terracotta elephant head and beads of faience and gold film, lumps of laterite and polished potsherds. Below it was another layer of coarse potsherds, lumps of laterite, glass slag and a copper ring.

Almost similar stratification was observed while digging below the Śātavāhana houses on MD. I, where the upper layers had been dug out by brick grabbers.

SIGNIFICANCE OF SOIL LAYERS

What is the significance of these layers? What story do they tell about the mound and its formation, about the buildings and other movable objects contained in them?

The significance of the layers will become clear as soon as the relation between the layers in different excavated areas is determined. We may begin from the top going downwards or from the bottom ascend upwards.

At three places the basal rock was touched. In Sq. I, its surface was 1800·90 (above sea-level), in Ex. II, 1800·03, in Pit I 1795·28 (and 1795·81 and 1795·52 in Sq. I, Room II, and Ex. I Room I, Mound I). That means that the original surface of the rock sloped gently from east to west. A little further down towards the south-west it was found to be 1790.86. From here the rock descends rather steeply to the water-level, which (on 18-2-1946) was 1749·43.

Just above the rock (in Sq. I, Ex. II and Pit I) there was a layer of soft brown earth. It contained a few black and red polished potsherds, a carnelian bead, etc. These indicate definite signs of habitation, though the very small area we could uncover at all the three places on Mound II, did not bring to light any structural remains. So it is difficult to postulate any distinct habitation period. The few finds—beads and potsherds—are almost identical with those found in the layers above. Stratigraphically, however, the soil is totally different from the layers lying immediately above it. As a result of this somewhat conflicting evidence, it can only be said that the people had started inhabiting the living rock, perhaps in mud-huts and culturally they were not much different from the people who lived in brick-houses immediately after them, unless it be

[1] Pl. XXX.B. [2] See Pl. XXI C. [3] See Pl. XXVI B 1. [4] See Pl. XXIII A.

supposed that the few objects found in the lowermost layer have dropped down in it from above.

On account of the controlled nature of the excavation and the comparatively small area available for the digging it was not possible to ascertain or verify this point, though we very much wished to do it.

Over the soft brown earth we find a layer of sticky brown clay, and over it a layer of yellowish black sticky clay. Both contained polished potsherds, beads, bones, iron objects and lumps of laterite. The nature of these soils indicates that they are perhaps identical with the 'black cotton soil' (mixed with decomposed laterite found near river banks) or regur which cover large parts of the Deccan. But the contents of these soils show that they are not simply there—virgin soils. The large number of cultural objects found in them show that the soils are not pure but of secondary or derived in origin. Their position also indicates this. At all the three places these soils are found below the brick structures. In Sq. I and Pit I (and also in Ex. II) these were intercalated with a layer of large slabs of stone. This was done, it appears without doubt, to prepare a good foundation and a level surface for the structures. Particularly such a foundation was necessary because buildings were to be constructed on a sloping surface. So after preparing the ground the foundation of a structure was laid. Here too the walls were raised on coarse large sized pebbles embedded in 'regur' and sticky brown soil.

In order to make the surface more firm, large lumps of laterite were also put in the soil, which contained bones, beads, gold leaf and potsherds. Such a soil might have been brought from the existing rubbish heap. There is no evidence to say that the bones are those of animals sacrificed at the time of laying the foundation.

This seems to be the most reasonable explanation of the occurrence of large stones and other objects in the soil. The alternative explanation would be that the builders of brick structures dug deep trenches[1] into the existing deposits of brown and blackish soil and sunk their foundation walls in them.[2] But this would mean that the two layers of soils were already there, with a bed of stone-slabs and other objects. Since the soils are not virgin, the existence of these articles would imply another period of occupation. For it, however, there is no other evidence except a few objects found in the soil. Even then the presence of a few stone slabs remains unexplained. For their lay-out does not suggest a regular habitation floor.

Hence it seems most probable that the brick buildings were erected

[1] Were it so, the trench line should have been seen by us at all places where we dug below the foundation.

[2] This is the method witnessed by the writer when houses were constructed near the Deccan Gymkhana, Poona, almost on the bank of the Mutha river. Here there is a thick deposit of sticky soil near the bank, but further away northwards it thins out and trap rock crops up on the surface near the Modern High School.

on a well-prepared level surface. For these two or three layers of black and brownish sticky clay were used and where necessary the hollows were filled in with large slabs of stone.

The brick buildings were hidden under a mass of brick debris. Among these were noticed, wherever this layer was reached, charred and uncharred, broken and a few complete tiles, burnt nails, potsherds and a streak of charred rice, charcoal dust and ash towards its base. All these are suggestive of the fact that buildings were destroyed by fire. The roof crashed first bringing down with it the tiles and the nails which kept them in position. These left the walls bare. At some places part of these walls might have broken down immediately, at others later. The debris lying on the top disintegrated owing to various causes. Thus arose a layer of reddish dust (soil) over the mass of brick debris.

While this was the sequence of events in Sq. I, Ex. II, and Pit I, in Sq. II there is definite evidence of the occupation either immediately or soon after over the debris of the first brick structures. Just above the broken walls of the first period, another brick structure with a small plinth was erected. And the floor was cemented with a mixture of lime and gravel. Possibly this was done at least thrice, as we have three such pavements.[1] These were probably roofed over by bamboo or wooden poles and straw. For a number of post holes were found in these pavements. These afford another proof that all the pavements are not of one period. For some of these holes are so near each other that they yield no intelligible plan when plotted.[2] But such a large number and close proximity might be due to the fact that every time the flooring was made, new holes were bored in it.

But for this interlude the sequence of events is identical everywhere. Even in Sq. II, over the lime gravel plaster, lies the layer of reddish earth.

Over this the principal layer is of Pāṇḍhari Māti. Towards its base it is distinctly ashy. At places it is mixed with lime. The Pāṇḍhari Māti seems to be disintegrated mud walls, of the mud brick structures exposed in Sqs. II, III, IV, Ex. I, III, IV, and V. Ash, charred rice and *rāgi*, glass slag obviously come respectively from the kitchens of which we had evidence in hearths in Sq. II, Ex. IV and Sq. III and Pit I and of the furnace (?) in Ex. IV. Since there were no buildings on the south-westward side during the Bahmani period and also as the original rock surface slopes from east to west, the close of this period saw an artificial mound formed by the debris of later and earlier buildings, which sloped steeply from north-east to south-west.

The Pāṇḍhari Māti is covered at four places, in Sqs. I, II, and III, and Ex. II, by a layer of sticky brown clay. The layer is thick towards the west but thins out and disappears eastwards at I/20 in Sq. II.

The clay seems to be river silt or mud and it lies cleanly over the

[1] See Pl. VI A-B [2] See Fig. 4

Pāṇḍhari Māti layer.[1] Its occurrence here can only be explained on the ground that somewhere in the 15-16th century there was a mighty flood in the Panchganga river.[2] The water rushed up from the south-west and touched almost the top of the mound at I/20. Possibly this flood might have razed to the ground the mud-walled houses of the Bahmani period. This event had slightly levelled up the mound, though even afterwards it sloped steeply down on the south-west side.

This was filled up with rubble, probably when Aurangzeb camped on the site. On this filling and the rest of the mound were erected northward running walls of huge stones. For what purpose it has not been possible to understand so far.

When the missionaries came to stay on the mound, late in the 19th century, they seem to have carried on some surface repairs, filling up the hollows here and there with murrum and road metal and earth. They or some other authority also sunk a column of brick[3] and lime mortar at E/40 in Sq. IV.

In this way man and nature—but principally man—raised the surface of the mound by about 40 feet in the last 2,000 years.

STRUCTURAL LAYERS

The superposition of structures is and was till recently one of the chief methods of determining the sequence of archæological periods. Since we had found such a sequence of superposed buildings and also kept accurate record of their occurrence in relation to soil layers, it is thought desirable to give them separately, before discussing the plans and method of construction of the buildings.

On the removal of the humus and murrum layer in Sqs. I and II, two clear stone walls appeared in Sq. II and cruder manifestations of it in others. In Sqs. I and II, they were built on the rubble filling, which overlay in some parts the sticky brown layer and in the eastern corner the layer of soft brown earth.

These walls lay almost north and south cutting the square diagonally. However, they were not exactly parallel. Almost similar walls were found in Sqs. I, II and IV and in the same layer, but no connection between them could be established. So it still remains an enigma whether these walls

[1] See Frontispiece.

[2] *BG* XXIV (Kolhapur), 317 refers to a statement of Major GRAHAM who sought to explain the occurrence of buildings at great depth, and the bed of the Panchganga river 70 feet above the level of its present bed to the action of an earthquake. In the absence of a regular excavation such an explanation was natural. But it would be clear now that the super-position of the buildings is due to vicissitudes in the life of the city and to a great flood.

[3] Shown as No. 1 in Plate III A.

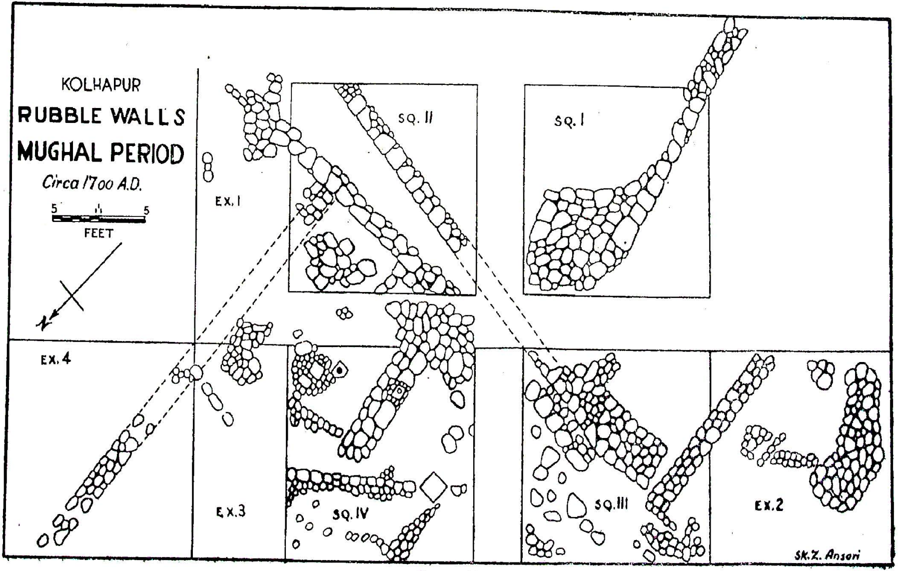

KOLHAPUR
RUBBLE WALLS
MUGHAL PERIOD
Circa 1700 A.D.
5
5
FEET
N
EX. 1
SQ. II
SQ. I
EX. 4
EX. 3
SQ. IV
SQ. III
EX. 2
Sk. Z. Ansari

FIGURE 10

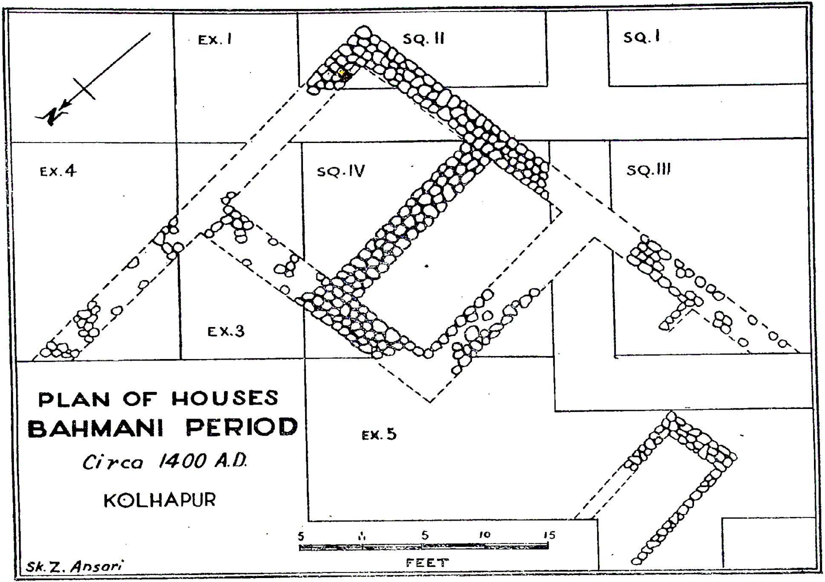

EX. I
SQ. II
SQ. I
EX. 4
SQ. IV
SQ. III
EX. 3
EX. 5
PLAN OF HOUSES
BAHMANI PERIOD
Circa 1400 A.D.
KOLHAPUR
5
0
5
10
15
FEET
Sk. Z. Ansari

FIGURE 8

were built in two or three courses, without any mud or lime mortar by piling large roughly dressed stones of basaltic trap over one another forming part of a building or were merely a sort of defensive structure.

Regular basement walls of a rectangular building came out in Sq. IV, and parts of it in Sq. II and Sq. III and Exs. I, III, IV and V. These lay immediately below layer 2 in Sq. II and layer 1 in Sq. I and Exs. III, IV and V, and almost at the top of the layer of Pāṇḍharī Māti.

The walls were constructed mostly with roughly dressed stones, usually small, but at times consisting of round boulders, and cemented with mud mortar. Occasionally bricks were also used. The walls were usually in two courses, the upper one having smaller stones than the one below. Though they yield two perfect rectangles, with their longer axis lying north-south, it is to be noted that all the walls do not lie at the same depth. This is due either because of the fact that they were built on an uneven surface, or because the wall near H/45 has lost its upper course. The inner side of this wall was lined with broken bricks.

No signs of super-structure could be had. This is probably because the walls must have been made of mud, which in course of centuries disintegrated into dry, porous soft brown earth. Compared to the material found in earlier layers of the Sātavāhana period, very little ash, charcoal dust, broken tiles etc. were found from the remains of these buildings. So no clear indications as to how the houses were roofed can be had.

Inside the rooms in Sq. IV, Ex. III and Sq. III pounding stones[1] were found, whereas in Sq. II and Exs. III and IV remains of a hearth with an earthen pot on it were noticed. Lot of charred rice and rāgi were strewn near the hearth in Ex. IV. This leaves no doubt that parts of these houses were used as kitchens.

These houses also gave hundreds of pieces of glass bangles, glass wires and glass slag. Some of the last was actually recovered from the hearth area. It is therefore most likely that the occupants manufactured the glass bangles on the spot. But this was no more than a small cottage industry.

The basement walls of the rectangular room[2] found in Sq. II are at a slightly greater depth (6 ft.) than those in Sq. IV. And at first it appeared that this building might not belong to the first Bahmani period. But it is in the same layer, and also of roughly dressed stone, though arranged in a more compact fashion. Hence this building, though at a slightly lower level than those in Sq. IV, is contemporary with them.

The same is true of the little room exposed in Ex. V.[3]

In Sq. IV, Ex. IV and Sq. III, in the same but now more ashy layer of Pāṇḍhari Māti, but immediately below the structures mentioned above lay basement walls of almost similar structures. The longer axis in this structure however points east-west and not north-south. The walls are not also so well made. They are less compact, and contain many more

[1] See Pl. XXXI D. [2] See Fig. 8. [3] See Pl. III B and Fig. 8.

brick-bats. At some places, in Sq. III and Ex. IV, small mud-brick platforms were found resting on parts of these walls.

The walls in Sq. IV were at a depth of 6 ft. 6 in. and the solitary wall in Sq. III at a depth of 6 ft. 2 in. from the datum level. These walls enclosed fairly long rooms. Between the room in Sq. IV and that in Sq. III was a small rectangular room. Most of the bricks used in the walls are found in this room.

The only signs of a kitchen were found by the side of the mud brick platform wall in Sq. III. Here the lower part of a rotary quern was found *in situ*[1], while in the southern wall was found a *chūl*, with a broken pot embedded in it.

Comparatively few objects were found from these structures. But some of these are important as they give an idea of the time and character of the people who lived in these very ordinary buildings.

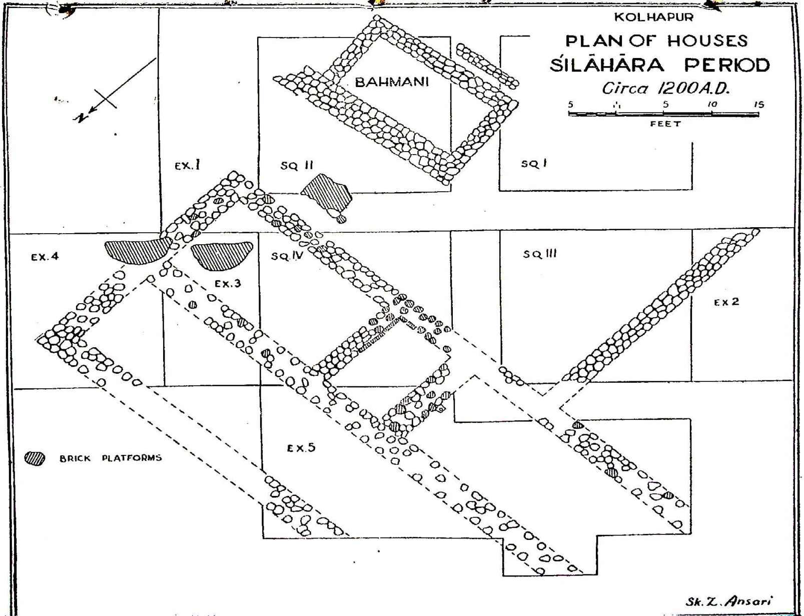
The most important are two tiny gold coins.[2] Both were found in Sq. IV, below the walls of the first Bahmani buildings. On the obverse of both of them there is *triśula*, while on the reverse on one of them there is an indistinct figure of Garuḍa. The coins bear no legend, but the symbols indicate that they belong to a Hindu dynasty, probably a branch of the Śilāhāras or Yādavas, more probably the first. (For a detailed discussion see Ch. III.)

Another important piece of evidence is a fragment of a small stone inscription (No. 489).[3] It was found from the junction of Ex. IV and Sq. II in layer 3. Unfortunately it is too small a fragment, so nothing can be said about the king to whom it belonged, but from the character of Nāgari letters etc., it is clear that it belongs to one of the dynasties mentioned above.

A small stone *kalaśa*,[4] and part of a stone pillar from a Hindu temple[5] were found respectively at the junction of Sq. II and Sq. IB in the layer of ashy Pāṇḍhari Māti, below the walls of period I. These few objects indicate that very probably the structures are of the Hindu period immediately preceding the Bahmani. A small greenish steatite *liṅga-pītha*[6] (No. 1494) from Sq. II, below the wall of period II, would further suggest that the inhabitants were worshippers of Śiva.

Traces of some brick structures were noticed at the junction of Sq. II and Sq. IV, while the rest of the area was filled with brick debris. These consist of a small, solitary, one course, wall of brick at right angles. It lies in the ashy layer below the true Pāṇḍhari Māti. Here it is necessary to mention that the western part of Sq. IV at this depth was becoming distinctly ashy, as if there was an ash pit there. The eastern part, whereas, had the same reddish earth layer seen elsewhere, heralding the debris of the Sātavāhana houses below. The ashy layer yielded charred grain (rice); a terracotta lotus pendant and some crude terracotta figurines[7]

[1] See Pl. IV A. [2] See Pl. XV No. 1268 [3] See Pl. XXXI B. [4] See Pl. XXXI A.
[5] See Pl. IV B. [6] See Pl. XXXI C. [7] See Pl. XXII C. (right.)


KOLHAPUR
PLAN OF HOUSES
ŚILĀHĀRA PERIOD
Circa 1200 A.D.
5
5
10
15
FEET
N
BAHMANI
SQ I
SQ II
SQ III
SQ IV
EX. 1
EX 2
EX. 3
EX. 4
EX. 5
BRICK PLATFORMS
Sk. Z. Ansari

with pinched noses, shallow incised eyes and high head dresses, quite flat on the other side.

Sq. IV, so far, had given three to four succession of foundation walls lying over one another, the topmost in layer 2, and the rest in layers 3 and 3a or 4; Sq. II two or three, Sq. III two, Ex. IV two or three, and Sq. I only one. From the coins associated with these structures, they are assignable respectively to the post-Bahmani, Bahmani and Śilāhāra-Yādava periods.

The last of these structures was succeeded by a layer of reddish earth, which is nothing but the disintegrated brick debris which lie underneath. The last was followed by the broken walls of the buildings proper. This was the sequence wherever deep digging was done (Sq. I, Sq. IV, Ex. IV and Ex. II), but in Sq. II, a gravel pavement, divisible into three terraces and sloping from east to west was found to intervene between the reddish earth and the brick debris and buildings below.

The pavement rested partly—on the eastern side—on the brick debris, and partly on a small brick-wall.[1] Since this brick-wall was found to rest on the debris of an earlier structure and was capped by gravel pavement, it appears that the first structure and the pavement are contemporary. On the evidence of coins found there it should belong to the (late) Sātavāhana period.

The pavement seems to have formed the flooring of a hurriedly constructed and temporary structure. Another feature of the pavement was the presence of about 32 holes in it.[2] Most of these are found on the pavement above the brick wall, and few over the remaining parts of the pavement. The holes are at an average 1 ft. deep and 6 in. in diameter. At first sight these appeared to be post-holes, where bamboos, or wooden posts were inserted to support a thatched roof of straw. But such a roof would not require so many holes! Unless we assume that the holes are many, far more than are required for supporting a roof, because probably so they belong to different pavements, and secondly because different holes were bored at different times by people who came to occupy the site temporarily.

That there was more than one pavement is proved by the fact that in the south-east corner, at J/15, another pavement was exposed when the first was dug out, capped by a three-inch layer of Pāṇḍharī Māti. From these were found a graphite piece, conch shell, a terracotta bead and very few potsherds.

Elsewhere digging below the pavement yielded bright red, absolutely fresh looking, potsherds, a few tiles, a few completely oxidised copper objects, a number of rusted iron nails and a few glass pieces and beads.

At some places the pavement rested on brick debris as mentioned above. Among these were noticed charred tiles and nails, charcoal dust, a few potsherds with lateral grooves and some extremely fine, thin red ware.

[1] See Pl. VI A.B. [2] See Fig. 4.

The brick debris here as well as in Sq. I, Ex. IV, Ex. II and Pit I and Pit II lead us on to the extant walls of the buildings. Since a large number of copper and lead Sātavāhana coins were found from these structures, they enable us to assign the buildings to this period.

SATAVAHANA HOUSES

Excavations in Sq. I, II and Ex. IV give us some idea of the ground plan of the buildings.[1] Here we see the remains of four separate and different buildings.

In Sq. I we have a large kitchen[2] (about 10 ft. by 6 ft. 6 in.), with the two hearths[3] (*chūls*) on the north-western side and a built-in storage jar on the south-eastern side. The space between these was paved with

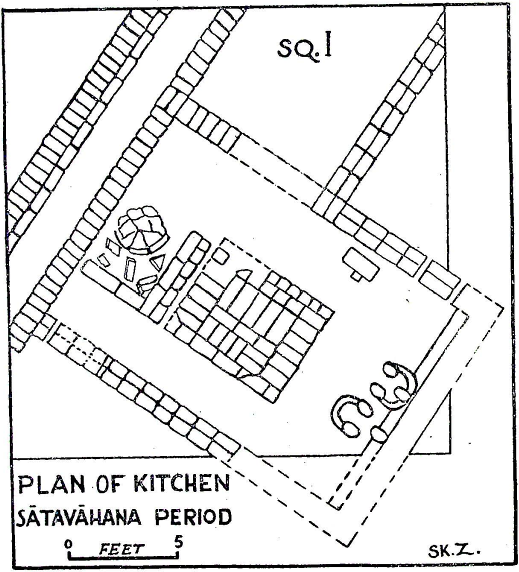


FIG. 9

[1] See Plan. [2] See Pl. X and Fig. 9. [3] See Plate XIII. B.

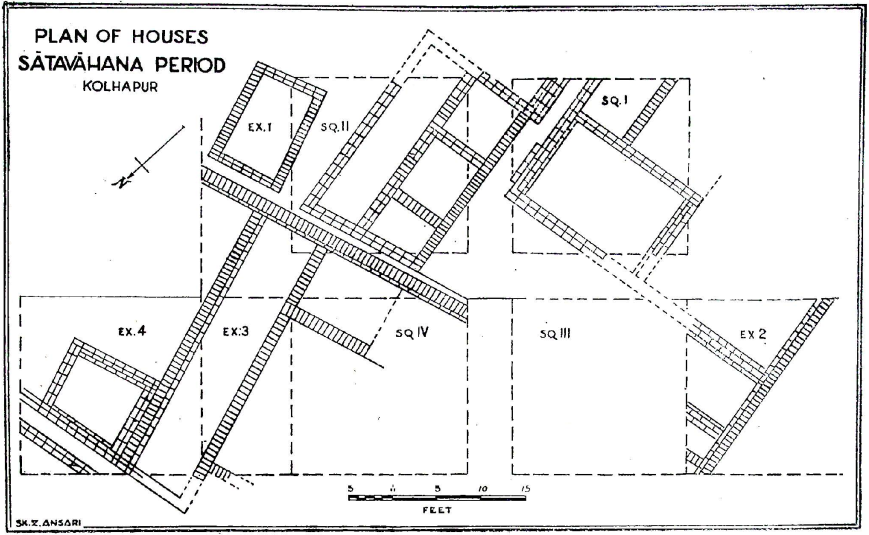

PLAN OF HOUSES
SĀTAVĀHANA PERIOD
KOLHAPUR
N
EX.1
SQ.II
SQ.I
EX.4
EX:3
SQ IV
SQ III
EX 2
5
5
10
15
FEET
SK.Z.ANSARI

FIGURE 12

brick and portions plastered with cow-dung. There were two rooms to its south: one towards the west and the other towards the east.

Separated by a narrow passage (about 2 ft. wide) is the house No. II. It has three small rooms (room 'a' being 6 ft. 8 in. × 6 ft. 3 in., room 'b' 7 ft × 6 ft.) bounded by a long verandah-like room (about 21 ft. × 5 ft.) on the east. The slits in the walls of rooms 'a' and 'b' seem to be meant for inserting the door frames.[1] Room 'c' is not square like the other ones. All the rooms were entered from the east and the doors were always in the north-east corner of each room.

Likewise the passage between house II and III and that between II and IV is also irregular. The former broadens out towards the east, whereas the latter is extremely narrow.

House IV appears to be unusually large. There is a long (32 ft. × 6 ft.) corridor-like room[2] and on its either end we have a room (9 ft. 6 in. × 7 ft.). The one on the south is again irregular.

It is not possible to have an idea of the full height of the buildings and the individual rooms in them. The upper part of the walls have invariably toppled down creating the layer of brick debris. The walls standing in the kitchen of House I give some idea of their full stature. They should be at least 10 to 11 ft. high originally.

The distance between the sockets for the door frame however afford some clue to the average height of the brick walls and the buildings. According to a modest estimate, the average height of a door is about $2\frac{1}{2}$ times its breadth. If this be true of the houses of the Sātavāhana period, the average height of the door frame would be $2\frac{1}{2}$ × distance between sockets, plus some room for the superstructure and roof.

The walls in Sq. I were at least $\frac{3}{4}$ ft. above the pavement.

It appears certain however that the houses were not storeyed. In Ex. II structures at two different levels[3] were found, but nowhere had we any trace of a storey. But there was ample evidence, in the shape of charred tiles and nails which littered the floor, to say that these were roofed with baked, clay tiles. These are quite interesting. The tiles[4] are rectangular (10 in. × $5\frac{3}{4}$ in. × $\frac{3}{4}$ in.), flat on the underside, slightly convex on the upper with bevelled edges on two sides having three grooves on one end on the side and two holes on the opposite end in the same line of the grooves. The tiles also have on underside grooving to cover the edge of another below it. In their shape and technique they recall the so-called modern Mangalori tiles and are quite unlike the 'Gāôṭhi' ones.

The tiles were kept in position by inserting the nails in the holes and then fixing them into the wooden rafters covering the roof. Not only a number of charred wooden pieces were found along with the nails, but in one case a charred nail fixed into a small piece of wood, were found together.

[1] See Pl. IX. B. [2] See Pl. V B. [3] See Pl. XII. [4] See Pl. XX B.

The building was erected on a well laid foundation.[1] This was done as follows. If not all, at least two walls of a room were erected on a foundation of a double row of large pebbles laid in sticky, black-brownish, clay. Sometimes, as already mentioned, before the intervening space between two walls or front of a house so erected was levelled and made firm by joining it with stone slabs.

Thus care was bestowed on laying a firm foundation.

The next step was to raise the wall. This was made of baked bricks. The lowermost course of bricks slightly protruded outside, making a small ledge. On this the second and subsequent courses were laid having the bricks laid throughout lengthwise. But care was taken to see that the joints of any two consecutive courses did not meet.

An exception to the above rule was seen in the pavement in Sq. I, were one of course of spacers (lengthwise bricks) was followed by one of headers (bricks put breadthwise). Here too the joints did not meet.

No instance was found where, for instance at corners, wedge-shaped bricks were used.

The bricks seemed to be of two types. Some were fire-baked, and some were sun-baked, both having a lot of rice husk etc. in them. In size they are fairly large. The average brick measures about 16″×8″×4″; but occasionally a smaller brick 10″×5″×3″ was employed in Ex. II.

No traces of windows were found, but in Sq. I, Sq. II and Ex. IV we got definite evidence of the way how doors were used in these houses. It appears that a wooden frame was inserted into the slit.[2] To this doors were attached by iron hinges-a specimen of which was found in Sq. I.

[1] See Pls. X B. and XI A. [2] See Pl. IX B.

PART II

CHAPTER III

COINS

CHRONOLOGY OF THE SITE

COINS found in successive strata in the excavation have helped considerably in determining the chronology of the site. A large number of them found within a restricted area selected for excavation rendered the task comparatively easy and it is possible to date within a close proximity all the strata from which these emanated. The layers in most of the cases were very well defined and clearly showed the formation of the Brahmapuri mound at successive stages. A sequence-dating of the layers which we could otherwise have followed in the absence of any coins, was fully confirmed by the actual presence of coins of known periods and it was only in rare cases that the evidence was vitiated where there were clear indications of the layers being disturbed.

We give below a complete picture of the coins found in several places in the areas selected for excavation before arriving at some definite conclusions regarding the chronology of the layers.[1]

SQUARE I

Layer	*Coin No.*	*Dynasty (X=Blurred Specimens)*
(3)	...	...
(4)	544	Bahmani
(5)	...	...
(7)	1856	X
(8)	1999	Mahāraṭhi
	2658	Vāsiṣthiputra
	2662	Mahāraṭhi
	2771	Mahāraṭhi
	2825	XXX
	2826	XXX
	2885	XXX
	2987	Viḷivāyakura
(9)	2230	Probably Cuṭu
	2231	Viḷivāyakura
	3067	XXX
	3154	XXX

SQUARE II

Layer	*Coin No.*	*Dynasty (X=Blurred Specimens)*
(3)	1400	Śātavāhana
(3)	1402	Un-inscribed
(3)	1403	Aurangzib
(4)	985	XXX
(4)	999	XXX
(4)	1376	Śātavāhana
(4)	2906	Mahāraṭhi
(5)	2327	Śātavāhana
(6)	2590	XXX
(6)	4132	Un-inscribed
(6)	4209	XXX
(6)	4227	Un-inscribed

[1] See also page 140 below.

SQUARE III

Layer	*Coin No.*	*Dynasty (X=Blurred Specimens)*
(2)	902	XXX
(3)	907	XXX
(2)	903	Śātavahana ?
(3)	1059	Bahmani
(3)	1195	Bahmani

SQUARE IV

Layer	*Coin No.*	*Dynasty (X=Blurred Specimens)*
(3)	95	Bahmani
(4)	732A	Śilāhāra
(4)	1268	Śilāhāra
(3)	1334	Mahāraṭhi
(4)	4093	XXXX
(5)	3642	XXXX
(6)	1857	XXXX

EXTENSION II

Layer	*Coin No.*	*Dynasty (X=Blurred Specimens)*
(3)	1142	Bahmani
(7)	2235	Mahāraṭhi
	2282	XXX
(8)	2307	?
	2308	?
	2313	?
	2335	?
	2336	?
	2337	?
	2377	?
	2378	Viḷivāyakura
	2378*a*	XXX
	2379	XXX
	2380	XXX
	2380*a*	XXX
	2381	XXX
	2416	XXX
	2458	XXX
	2462	Viḷivāyakura
	2836	XXX
	2837	XXX
	2838	XXX
	2839	XXX
	2840	XXX
	3527	XXX
(9)	2545	Viḷivāyakura
	2659	Mahāraṭhi
	2660	XXX
	2661	XXX
	2756	Mahāraṭhi
(10)	2772	Mahāraṭhi
	2773	Śātavāhana (Square)
	2788	Mahāraṭhi
	3054	XXX
	3054*a*	XXX
	2288	XXX

EXTENSION III

Layer	*Coin No.*	*Dynasty (X=Blurred Specimens)*
(5)	4108	Śātavāhana
	4140	Sq. Cast
	4139	Sq. Cast
(6)	4282	XXX

EXTENSION IV

Layer	*Coin No.*	*Dynasty (X=Blurred Specimens)*
(3)	801	Śātavāhana
	801*a*	Śātavāhana
	824	XXX
	1670	XXX
(6)	4093	Mahāraṭhi

Out of the total of 128 coins found in the excavation, only 87 have been noted above. 14 coins of Viḷivāyakura were found on Mound I, (similar to Plate XV, No. 2658). The remaining 27 coins were not available for study.

From the number of coins above noted it will be seen that numerous coins were available for study from Ex. II and Sq. I, in the lower levels, and in the upper strata of Sqs. II, IV and Ex. IV. A number of coins from Ex. II however were very much corroded though these possibly would have given us a very accurate picture of the coin-types.

Distribution of Coins according to Layers

	Sq. I	Sq. II	Sq. III	Sq. IV	Ex. II	Ex. III	Ex. IV
Layer 3	...	1 Aurangzeb 1 Śātavāhana 1 Un-inscribed	1 Śātavāhana 2 Bahmani	1 Bahmani	1 Bahmani	X	2 Śātavāhana
Layer 4	1 Bahmani	1 Śātvāhana	XX	2 Śilāhāra	XX	XX	XX
Layer 5	XX	1 Śātavāhana	XX	XX	XX	3 Śāta-vāhana	XX
Layer 6	XX	1 Un-inscribed	X	XX	XX	XX	Mahārathi
Layer 7	XX	XX	...	...	1 Mahā-rathi	...	XX
Layer 8	3 Mahā-rathi 2 Viḷivāya-kura	... ...	... ...	... ...	2 Viḷivāya-kura	...	...
Layer 9	1 Viḷivāya-kura 1 Cuṭu	... ...	... ...	... ...	2 Mahā-rathi	...	...
Layer 10	...	...	...	...	2 Mahā-rathi 1 Sq. Śāta-vāhana	...	...

Layer (3) has four Śātavāhana coins and three Bahmani coins, which date the layer as belonging to the last ruler Mahmud Shah bin Muhammed (A.D. 1482-1518). The occurrence of the Śātavāhana coins in Sq. II, III and particularly in Ex. IV has to be explained as due to the re-use of earlier coins at a subsequent date or due to the disturbed nature of the layers in Ex. IV.

Layer (4) in Sq. I yields one Bahmani coin and therefore it is attributable to that Period.

Below the 4th layer no Bahmani coins were found. Below the lowermost strata of this layer two small gold coins of the Śilāhāras of Kolhapur were found, beneath the foundations of a wall of Period II.

Layers 5–10 have each yielded several copper and lead coins of the Imperial Sātavāhana dynasty and their feudatories, whose period is generally believed to be 200 B.C.–A.D. 200 from the palaeography of the legends on them. The method of construction of the buildings, pottery and terracotta figurines, a clay seal (No. 4284), a Roman Clay Bullæ (No. 1386)

and several other antiquities, described elsewhere in the report justify the general dating of these layers, as coeval with the Sātavāhana period.

According to their findspots the coins have been distributed into four principal occupation levels of the Brahmapuri mound as follows:

(1) Post-Bahmani period and Mughal
(2) Bahmani
(3) Pre-Bahmani period and Intermediate period approaching the Sātavāhana period (Late or "Post" Sātavāhana)
(4) Sātavāhana

Post-Bahmani and Mughal Coins (Plate XIV A. 1403)

Only one coin (No. 1403) which can doubtfully be ascribed to the reign of Alamgir Aurangzib has been recovered. This copper coin is only fragmentarily preserved and has on its obverse a trefoil in the margin and traces of the word *Maimanat* in the field. The reverse shows the *Tughra* of the Emperor partially preserved and considerably worn out. Weight 141 grains. Span. ·75 inches.

Mr. R. G. Gyani, of the Prince of Wales Museum of Western India, Bombay, is of the opinion that this coin is minted at the *Furkhunda Bunyad* (i.e., Hyderabad) Mint.

The finding of this coin in layer (3), in association with a large rampart wall, supports the tradition that the Emperor had camped on the Brahmapuri mound while attacking the fortress of Panhala.

Bahmani Coins (Plate XIV A-B, except No. 1403)

Only 6 coins of the Bahmani Dynasty were found in the excavations and were invariably associated with the upper strata [Layers (3), (4)].

These are—

544	Sq. I	(4)	Mahmud Shah III (1463–A.D. 1482)
1059	Sq. III	(3)	Mahmud Shah bin Mahammed (1482–A.D. 1518)
1142	Ex. II	(3)	Ahmed Shah II (1435–A.D. 1457)
1195	Sq. III	(3)	Ahmed Shah II (1435–A.D. 1457)
1687	Ex. V	(3)	Muhammed Shah III (1463–A.D. 1482)

The period covered by the occupation of the Brahmapuri site in layer (3) therefore does not antedate A.D. 1435 which is the earliest date for the reign of Ahmed Shah II, of whom two coins have been recovered from the various sub-squares excavated. This layer therefore is datable roughly at A.D. 1435–A.D. 1700 the latter limit of it being fixed by the coin of Alamgir Aurangzib.

The coins of the Bahmani dynasty excavated at Brahmapuri are the usual thick dumpy pieces roughly circular in shape and do not represent any new types. They all belong to the published varieties. Except the usual legends none of them bear any date (except perhaps 857 A.H. on coin No. 1195 which has been partially effaced).

The readings have kindly been supplied by Mr. G. H. Khare, Curator of the Bharat Itihasa Samshodhaka Mandala, Poona to whom our thanks are due.

Coin of Mahmud bin Humayun

Coin No. 1	Obv.	Rev.
	(In an incuse)	بن
	محمد	همایون
	شاه	شاه

Weight: 231 grs. Diameter: ·8 inches (Not Illustrated)

Coin of Mahmud Shah bin Humayun

	Obv.	Rev.
	بالله	محمد شاه
	المعتصم	بن همایون شاه
544[1]	شمس الدنیا	السلطان
	والدین	....

Weight: 239 grains Diameter: ·9 inches

Coin of Mahmud Shah bin Muhammed Shah
887-924 A.H. A.D. 1482-1518

	Obv.	Rev.
	المتوکل علی	محمود شاه
1059[2]	الله القوی	بن محمد شاه
	الغنی	البهمنی

Weight: 158 grains Diameter: ·83 inches

[1] SPEIGHT, "Coins of the Bahmani kings of the Deccan" *Islamic Culture*, 9. Pp. 268-307, Plate XV (Combination of Nos. 22 and 24). Plate XIV. B.

[2] *Ibid.*, Plate XVI, Type II, 17-24. Plate XIV. A; In this plate the figure (1059) should be read in between coin 3 and 4 in the first row.

Coin of Ahmed Shah II (1435-A.D. 1457)

	Obv.	Rev.
	المعتصم	علا الدنیا
	بالله المنان سمی	و الدین احمد شاه بن احمد
No. 1142[1]	خلیل الرحمان	شاه السلطان
	ابوالمظفر	....

Weight: 240 grains Diameter: ·9 inches

The word Shāh on the obverse side is omitted.

Coin of Ahmed Shah II (838-862 A.H. 1435-A.D. 1457)
85 (2?) A.H.

	Obv.	Rev.
	المتوکل	احمد شاه
	علی الله الغنی	بن احمد شاه
No. 1195[2]		الولی البهمنی
		٨٥٢ (؟)

Weight: 151 grains Diameter: .83 inches

Coin of Muhammad Shah III (867-887 A.H. 1463-A.D. 1482)

	Obv.	Rev.
	بالله	محمد شاه
No. 1891[3]	المعتصم	بن همایون شاه
	شمس الدنیا	السلطان
	والدین	....

Weight: 121 grains Diameter: ·75 inches

One more coin of this type has been found (No. 95) in Sq. IV, layer 3.

[1] *Op. cit.*, Plate VII, Type I. Plate XIV. B.

[2] *Ibid.*, Plate VIII, Type II. Plate XIV A. In this plate the figure (1195) should be corrected as standing between coin 3 and 4 in the second row.

[3] *Op. cit.*, Plates XIV-XV, Type I.

Silāhāra Coins

Excavation in layer (3) yielded two tiny gold coins (Nos. 732 A and 1268), about half an inch in diameter and weighing about 2½ grains. To describe these first:

Obv: *Triśūla* without a handle; Sun and Moon in the intervening space between the forks.

Rev: Figure of a standing *garuḍa*, facing with legs bent; with a flowing banner in his left hand and a serpent in the out-stretched right hand.

As there is no legend on these coins, there is no internal evidence to assign them to any particular dynasty. But their occurrence immediately below the Bahmani layers helps us to identify them. These coins seem to have been issued by the rulers of the Kolhapur branch of the Śilāhāra dynasty for the following reasons:

(1) The figure of the *garuḍa*, appearing on the reverse was the emblem (*lāñchhana*) on the banner (Suvarṇṇa-*garuḍa-dhvaja*) of the Śilāhāra dynasty. Seals on several copper-plate grants issued by the rulers of this family have an identical figure of a *garuḍa*.

(2) The *Triśūla* on the obverse is exactly identical with a similar figure obtained in an engraving on the Miraj Plates of Śilāhāra Mārasiṁha, Śaka 980, *ASWI*, X, Plate opp. page 102.

(3) Moreover exactly identical coins, reported to have been found at Bid, a village 16 miles S.W. of Kolhapur, were examined by me with the local shroffs at Kolhapur. Since Kolhapur was the capital of the Śilāhāras it is natural that their coins should be found in and around Kolhapur.

In the absence of any legend on the coins proper, these might be attributed to the Rāṣṭrakūṭa dynasty,[1] since the rulers of this family are also known to have ruled over the region round about Kolhapur and further to have the golden eagle as their *lāñchhana*. But this seems hardly possible because the fabric of these coins, which has certain affinities with the coinage of the contemporary Kadamba rulers of Goa (particularly in respect of the size and the figure of a trident appearing on the coins of King Jayakeśī, *JNSI*, XI. pp. 88-90) suggests a later date than the 10th century A.D. And stratigraphically the coins have to be placed about this period. Thus, it is most probable that these are Śilāhāra coins.

If this assumption is correct the present specimens would be the first gold coins[2] of the Kolhapur branch of the Śilāhāra dynasty found so far.

[1] The silver coins of Krisṇarāja, hitherto attributed to the Rāṣṭrakūṭa ruler, are now known to have been issued by the Kalachuri ruler of the same name. *JNSI*, III, pp. 21-24.

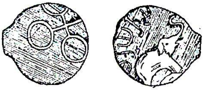
[2] Silver coins, issued by Chhittarāja, belonging to the collateral branch of the Śilāhāras at Thana, are already known. *JRAS*, 1900, p. 118; Plate facing p. 97, No. 18.

COINS OF THE IMPERIAL SATAVAHANA DYNASTY

Although a number (about 8 plus 2) of coins of the Imperial Sātavāhana family were found in the excavation, it was possible to clean only a few. Those of copper could be cleaned easily but in the case of potin coins it was found that on account of their being lain in a moist place, they were covered with verdigris and damaged. Their structure became loose by formations of patina, which in certain instances was so thick that the coins crumbled to powder.

Coin of Śri-Yajña Śātakarṇī

No. 801 — Potin
Ex IV (3) — Obv. Elephant with trunk upraised, standing right.
Insc. (vii) (Si)r(i) YANA SĀ(TAKAṆISA)
Rev. Ujjain Symbol and faint traces of some symbols.



Span: ·7 inch. Weight: 48 grains.

The coin appeared in a disturbed layer in Extension IV. Another coin with the same fabric (No. 1400) was found in Sq. II (3) below Wall I and weighs 48½ grains.

The fabric is identical with the coins of the same ruler published from the Chanda hoard.[1] Similar coins have also been found at Kondapur.[2] About 248 coins are represented in the Tarhala Hoard,[3] Cf. also coins from Gudivada.[4]

Coin of Gautamīputra Srī Śātakarṇi

No. 3685 — Copper.
Ex II. (6) — Obv: Caitya of three arches (indistinct traces) with a wavy line below.
Insc. (IX) (RAÑO GOTAMI)PUTASA S(i) RI SĀTAKA(ṆISA)
Rev: Traces of Ujjain Symbol. PLATE XV
Span: ·8 inch. Weight: 52 grains.

[1] RAPSON, *CIC*, *AWK*, Plate VII, 165-166.

[2] YAZDANI, "Excavations at Kondapur" *ABORI*, 22, Plate XIV, Nos. 9, 14, 18.

[3] MIRASHI, "A new hoard of Śātavāhana coins from Tarhala", *JNSI*, 2.89-90; Plate VIII, 17-18.

[4] SUBBA RAO, "Andhra Coins" *JAHRS* 5·12.

This king is evidently the well-known Gautamīputra Sātakarṇi mentioned in the Nasik Cave Inscriptions, whose silver (re-struck) coins have been found at Jogalthembi in the same district. So far as I know no copper coins of this ruler have been recovered and the Kolhapur find therefore is a distinct addition to our knowledge.

In type it imitates very closely the silver coins of Gautamīputra which have on them the Ujjain Symbol on the reverse and the Caitya with legend on the obverse.

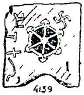
Square cast coins of Śātakarṇi

The Excavations brought to light two square coins of cast copper, which seem to be unpublished varieties of Early Śātavāhana Coinage. These are important because at least one of them was unearthed in the lowest levels of the excavations and from their palaeography they may be dated to about 200 B.C. Both these are unfortunately very badly corroded but sufficiently legible to show the legend on them. To describe them first:

No. 4139 Cast copper
Ex III (5) Obv: In the centre of an oblong piece the Solar symbol with six arms; Svastika to left.
Inscription to right vertically placed.

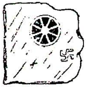
(SĀ)TAKAṆISA

Rev: Blurred. Damaged.



Span: ·62 × ·7 inches. Weight: 42 grains.
No. 2288 Cast copper
Ex. II (10) Obv: Indistinct traces of a Ṣaḍaracakra and Svastika similar to above; Inscription damaged.

Rev: Blurred. Damaged (possibly blank)



Span: ·58 × ·7 inches. Weight: 38 grains. (Slightly broken)

The palaeography of the inscription as stated above is very early. The occurrence of *Ṣaḍaracakra*, familiar on the early punch-marked coins, is very interesting, as it links the type with the earliest coinage in India. Their

square size is also an important factor which seems to be a regular feature with our earlier coins. For instance the coin of Prakāśa Śiva or King Sebaka[1] or the coin of the earliest ruler SĀTAVĀHANA.[2]

Hitherto the coins of the Śātavāhana rulers were known in copper, potin and silver. Cast copper for Śātavāhana coins is noticed here for the first time.

On account of the imperfectly preserved legend on these coins it is somewhat difficult to surmise about the ruler who issued them. Hitherto several coins with the legend SATAKANISA have been found but on none of them the *cakra* imitating the symbol found on Punch-marked coins has been noticed. The characters can roughly be assigned to 200 B.C. and it is possible that the SATAKANI mentioned by them must have been the 6th ruler mentioned in the *Matysa*, *Vāyu*, *Brahmāṇḍa* and *Viṣṇu Purāṇas*[3] to whom a long reign of 56 years is ascribed.

UN-ASSIGNED COIN (CUṬU?)

Besides the coins above described, there is still another coin which is different from the coin types. It has on its obverse a *caitya* of three arches with a legend in the right margin. The reverse has a tree in railing with some symbol to the right. The fabric of the coin is closely related to the coins of the Cuṭu family found in the Karwar district. The topmost arch of the *caitya* represented on the Cuṭu coins is considerably larger in size, whereas those appearing on coin (No. 2230) are all of the same size. Besides, the wavy line noticed at the bottom of the tree in railing is also absent from the better preserved specimens of the Cuṭu coinage. With these differences in detail the coin generally follows the same fabric.

No. 2230 Lead
Sq I. (9) Obv: Caitya of three arches with legend visible on the right of which only two letters are clear.
Insc. . . . . . LĀ NAṀ . . .
Legend: Rāño Chuṭuku*lānaṁ*dasa
Rev: Tree within railing, Symbol to right (traces of) Wavy line with dots at the bottom. PLATE XV
Span: ·9 inches Weight: 174 grains.

If the reading of the legend is correct the coin can be assigned to Kulānaṁda of the Cuṭu family, whose inscriptions have been noticed at Kanheri near Bombay[4], in Banavasi[5] (North Kanara) and at Malavalli[6]

[1] *JNSI* 7.94-7.

[2] DIKSHIT and JOGLEKAR, "A unique coin of King Śātavāhana" *BDCRI* 6.141-42; MIRASHI, "Coin of King Śātavāhana", *JNSI* 7.1-4.

[3] RAPSON, *CIC. AWK.* Pp. lxvi-lxvii; Puranic List of Andhra Kings.

[4] BÜHLER in *ASWI*, V, p. 86.

[5] *ASWI*, 10. 100.

[6] *EC* 7. Intro. p. 4; Trans. p. 142.

(Shimoga district, Mysore State). It is also possible that the coin belongs to some other earlier ruler of the same line but palaeography and the incomplete legend are not decisive on the point.

COINS OF VIḶIVĀYAKURA

Numismatists are quite familiar with the coins of this ruler found previously at Kolhapur[1] (Brahmapuri site) and at Karad[2]. The coins known so far were from accidental diggings or were obtained as surface finds. It is for the first time that they have been recovered from stratified excavations which have enabled us to know the sequence in the cultural history of the site, and also the probable place in time of these coins themselves. About 18 lead coins have been recovered and only those which are better preserved or show new varieties in types have been taken into consideration for a detailed study.

The coins recovered have varying sizes and only two of the larger size recorded by RAPSON[3] have been found in the area explored. The coins of smaller sizes are known for the first time from the present excavations.

Large size

No. 2378[4] Lead.
Ex. II (8)

Obv. Caitya of four tiers, with a dot within each arch surmounted by a crescent, standing together with a tree on left, within a railing ornamented with scrolls and dots, above Svastika. (Indistinct remains of).
Rev. Bow with string downwards, fitted with arrow pointing upwards, Inscr. (i)
RAÑO VĀSIṬHIPUTASA VIḶIVĀYAKURASA PLATE XV

Span.: 1·2 in. Weight: 241 grains.

No. 2658[5] Lead.
Sq. I (8)

Obv. Same as above.
Rev. Same as above. PLATE XV
Span: 1·2 in. Weight: 238 grains.

[1] BHANDARKAR, *Collected Works*, 3.411; Bhagwanlal INDRAJI, "Coins of the Andhrabhritya kings of South India" *JBBRAS* 13.304; CUNNINGHAM, *Coins of Ancient India*, 109; RAPSON, CIC, AWK, Pp. LXXXVII—viii, 5-9; KUNDANGAR "Andhra Coins in the Kolhapur Museum" *Numismatic Suppliment*, XLII, Art. 285; etc.

[2] *Numismatic Suppliment* XLVI, 15-19.

[3] RAPSON, *op. cit.*, pp. 13-16 and Plates I-II.

[4] *Ibid.*, Plate I, Nos. 14-15.

[5] *Ibid.*, Plate I, No. 15.

Small size

RAPSON describes coins of the smaller variety in potin. The coins found in the present excavations are all of lead.

No. 1537 Lead (Not illustrated).
Pit. I. (5)

Obv. Indistinct traces of caitya of three tiers surmounted by a tree.
Rev. Bow and Arrow with marginal legend Inscr. (iii)
RAÑO VIḶIVĀYAKURASA
Span: ·45 in. Weight: 20 grains.

The legend is abbreviated for want of space on the smaller coins.

No. 1833 Lead.
Pit. I. (6)

Obv. Caitya of three tiers (surmounted by a tree?) with wavy lines and dots below.
Rev. Bow and arrow with marginal legend.
. . . VĀYAKURASA PLATE XV
Span: ·42 in. Weight: 12 grains

No. 2545 Lead.
Ex. II (9)

Obv. Caitya with three tiers with dots in each arch, traces of wavy line below. Indistinct.
Rev. Bow and Arrow with marginal legend.
Inscr.
RAÑO VĀSIṬH (i) . . . PLATE XV
Span. ·6 in. Weight 49 grains.

New Variety

This coin of Viḷivāyakura represents a new variety in the fabric which is the only coin of the type found in the excavations. Unlike other coins of Viḷivāyakura, which use generally a very large die for minting, a very small die with incuse is used in the present coin.

No. 2987 Lead.
Sq. I (8)

Obv. Caitya of three arches in two tiers (with a tree to the right?) and wavy line below.
Rev. Bow and Arrow with marginal legend in an incuse Insc.
. . . ḶIVĀYAKURA PLATE XV
Span ·5 in. Weight: 20 grains

The following lead coins bear on them traces of Bow and Arrow on their reverse and a caitya on the obverse. The legends are partially

preserved and cannot be read successfully. The fabric shows that these belong to either Vāsiṣṭhiputra Viḷivāyakura or Māṭhariputra Sivalakura or Gautamīputra Viḷivāyakura whose coins have previously been found at Kolhapur.

801 A	Ex. II (3)	2661	Ex. II (9)
999	Sq. II (4)	2756	Ex. II (9)
1958	Pit. I (7)	2840	Ex. II (9)
2327	Sq. II (5)	4093	Sq. IV (4)
2378 A	Ex. II (8)	4108	Ex. III (5)
2462	Ex. II (8)		

Coinage of the Maharathis

Several coins have been found in the Kolhapur excavations, which show that simultaneously with the Śātavāhana rulers, or perhaps earlier, some feudatory chiefs, who style themselves as Mahāraṭhis, struck coins in their own names. These coins have a similar fabric like the coins of Vāsiṣṭhiputra Viḷivāyakura and Sivalakura. Unfortunately the legend on these coins is not so well preserved as to yield the name of any chief though the title is quite clear on many.

Mahārathis: The Mahāraṭhis who have been equated with the chiefs of the Rāshṭrikas mentioned in the Edicts of Aśoka are grouped with other people, Peṭaṇikas (probably those residing near Paiṭhaṇ) and it seems probable that they were actually ruling in some parts of the Western Deccan.

Several inscriptions found in the caves of the Deccan refer to the Mahāraṭhis. The earliest mention of a Mahāraṭhi appears in the relievo inscription at Nanaghat[1] which records the name of Mahāraṭhi Tranakayiro, identified with the father of Queen Nāganikā. Another inscription in the same cave refers to the daughter of Mahāraṭhi Kaḷalāya, of the Aṁgiya family, who is stated to be the mother of Kumāra Vedisiri. At Bhaja, one inscription[2] records the name of Mahāraṭhi Vehṇudata, a Kosikiputra while there are two inscriptions in the caves at Karle[3] one of which refers to the construction of a lion-pillar, by Mahāraṭhi Agimitaṇaka, a Gotiputra. The other is dated in the 7th regnal year of Vāsiṣṭhiputra Puḷumāyi and mentions the gift to the Valuraka Saṁgha at Karle by Mahāraṭhi Somadeva, a Vāsiṣṭhiputra, son of Mitadeva, a Kosiputra, of the Olakaliyas. The caves at Bedsa similarly refer to a Mahāraṭhiṇī (wife of a Mahāraṭhi) Māndavi by name.[4] And finally there is one inscription[5] in the caves at Kanheri where a certain Mahāraṭhinī Nāgamulinikā, daughter of a Mahārāja and a Mahābhogi, is mentioned.

1 *Lüders' List*, Appendix to *EI* 10. No. 1116.
2 *Lüders' List*, No. 1079.
3 *Lüders' List*, Nos. 1088 and 1110.
4 *Lüders' List*, No. 1111.
5 *Lüders' List*, No. 1021.

These inscriptions, more or less confined to the group of caves near the western coast, indicate that the Mahārathis were a powerful people matrimonially related to the Sātavāhana rulers and were enjoying a good status.

In point of time their inscriptions fall between 200 B.C. to A.D. 200 commencing with the earliest inscription at Nanaghat and ending with Yajña Śrī Satakarṇi's rule as seen in the Kanheri cave inscription.

The coins of these rulers however have been found only in the interior at Karwar in the southern extremity of the Bombay Presidency, and at Chitaldurg on the northern borders of the Mysore State.

The coins[1] from Chitaldurg and Karwar have a humped bull on their obverse, with a marginal legend SADAKANA KAḶALĀYA-MAHĀRAṬHISA. On the reverse appears a tree in railing with a caitya and other symbols. These coins were struck by a feudatory chief Mahārathi Kaḷalāya, identified with the person mentioned in the Nanaghat inscription and according to the latest view were issued jointly with his overlord Śātakarni.[2]

Besides these a few more are stated to bear the legends:

(1) SARAJAKAṆA KAḶALĀYA MAHĀRAṬHISA[3]
(2) HĀRITIPUTRA VIḶIVĀYAKURA MAHĀRAṬHIPUTASA

but these are as yet unpublished.[4]

Excavations at Chandravalli by the Arachaeological Survey of India in 1947 have also brought to light a number of Mahārathi coins with different legends.[5]

(1) Sadakaṇa Kaḷalāya Mahāraṭhisa
(2) Sadakaṇa(chaṭa-ka)ṇhasa Mahāraṭhiputasa
(3) Sadakaṇa Kanasa Mahāraṭhiputasa

Besides coins the legend MAHĀRAṬHIPUTASA occurs on a fragmentary clay seal found in the excavations at Maski[6] (reading not given in the report), which has on it the figure of a lion in the centre.

Two distinct varieties in the coinage of the Mahārathis have thus been noted before, but the coins found at Kolhapur introduce us to a new fabric

[1] RAPSON, *op. cit.*, p. 57.

[2] *JNSI* 7.18-20; See also the discussion by GOPALACHARI "Legacy of the Śātavāhana Rule" *Proceedings of the Indian History Congress.* Tenth Session, Bombay, 1947, p. 110.

[3] Examination of the Mahāraṭhi coins published in *EI* 7.Plate III facing p. 72, reveals that the varient SARAJAKANA is possibly due to the defective separation of the letters SADA in SARAJA; as the last vertical of SA is taken to stand for RA and DA resembles in many respects the forms of the letter JA. The legend therefore is probably the same as appearing on other coins from Chitaldurg. The original specimens unearthed by KRISHNA at Chitaldurg are still unpublished and are preserved in the Mysore Museum.

[4] M. H. KRISHNA, "Pre-historic Dekkan" Presidential Address, *29th Indian History Congress*, Baroda, 1942, p. 12.

[5] *Ancient India*, No 4. pp. 291-292 and Pl. CXXVII; 15-18

[6] *Annual Report*, *Hyderabad Arch. Department*, 1935-36, Plate V. d.

in the Mahārathi coinage in which the obverse bears the Bow and Arrow and the reverse has a Caitya of three arches with a wavy line below. The coins imitate closely the coins of Viḷivāyakura and Sivalakura and there is reason to believe that this family was therefore connected with the rulers at Kolhapur; in what way it remains to be investigated.

More than[1] six coins have been found in the excavations. The large number of them obtained in the same layers as those containing the coins of Viḷivāyakura shows that probably the family was contemporary and related with him.

Coins of Viḷivāyakura		—	Coins of the Mahāraṭhis	
Coin No.	*Layer*	*Site*	*Layer*	*Coin No.*
2658	(8)	SQ I	(8)	1999
2987	(8)	,,	(8)	2662
—	—	,,	(8)	2771
2378	(8)	Ex II	(7)	2235
2545	(9)	,,	(10)	2788
4175	(5)	Pit II	(6)	2821
—	—	,,	(9)	2906

Unfortunately no personal name of any chief can be detected on the partially read legends but in the case of one large coin No. 2788, and two smaller ones (Nos. 2662 and 2906) it is possible to read "KURASA MAHĀRAṬHISA" though I am not absolutely certain about the decipherment. A varient SIRISA MAHĀRAṬHISA is suggested. If the reading KURASA is correct, it is probable that the coin was issued by a person named KURA, which explains in some respects the legends on the coins of VIḶIVĀYAKURA and SIVALAKURA hitherto known from Kolhapur region only. It is an instance of a personal name of the founder of the dynasty being used as a suffix in personal names of later rulers in the same family, as was the case with certain Śātavāhana[1] rulers of the main branch. KURA which was at first a personal name, as the legend on the coins indicated, was retained by Sivalakura and Viḷivāyakura as recording the name of the *Kula*. The word VIḶIVĀYA has been explained by DR. K. GOPALACHARI as meaning "a wielder of a bow —Villa or Villiva meaning a bow in Tamil" which apparently was the lāñchhana of the family, well known from their coins. The word SIVALA cannot be satisfactorily explained but it is interesting to note that SIVALA appears as the name of a goddess in the inscriptions at Bharhut[2] and as a personal name of an Upāsikā at Amaravati.[3]

[1] For the coins of the Earliest Ruler, named Śātavāhana; see *BDCRI* 6.141-42 and *JNSI* 7.1-4.

[2] *Lüders' List* No. 709.

[3] *Lüders' List* No. 1268.

2 6 AUG

From the palaeography it appears that the coins with the legend are slightly earlier than those of VIḶIVĀYAKURA and not many years had elapsed in between the two issues. From the stratification it has been stated above that they were contemporaries, and it would appear that the coins of the previous rulers were also current in Kolhapur along with those of Viḷivāyakura. It is also noteworthy that the largest coin in the collection (No. 2788) with a decisive legend occurs in layer 10, a stratum which does not yield any coin of Viḷivāyakura. The metronyms Vāsiṣṭhiputra and Māṭhāriputra show their relationships from the maternal side and therefore do not concern us for the present. A working hypothesis can thus be built for explaining the terms VIḶIVĀYAKURA and SIVALAKURA which have been an enigma upto now, though I believe the explanation given above requires a conclusive evidence from fresh and decisive readings from well preserved specimens.

All the coins are of lead. The largest (No. 2788) weighs 298 grains and the smallest about 24 grains. The weights of several vary from 50-56 grains. But due to the indifferent cleaning and additions in weight on account of encrustations which cannot be successfully removed, it is not possible to show if there were any denominations intended on the basis of metal contents in lead.

If we accept the reading KURASA MAHĀRAṬHISA and assume the person mentioned by it as the founder of the family, it is possible to arrive at a tenative conclusion regarding the status of the KURA family. Thus the Kura or Viḷivāyakura belongs to the same family as the Mahāraṭhis. Viḷivāyakura and Sivalakura, the two later kings from the family style themselves as Raño on their coins, which shows that they attained a princely status sometime after KURA, who is merely content with the title MAHĀRAṬHI.

The connections of the Mahāraṭhis with the Cuṭus newly brought out by the Chandravalli finds are corroborated by the finds in the Brahmapuri mound. It will be seen that most of the Mahāraṭhi coins discovered at Kolhapur were in layers (5-9); layer 9 yielded one coin which has to be assigned to the Cuṭu rulers.

The family was also connected with the early Sātavāhanas from the fact that coins of Mahāraṭhis and a square cast coin of an early Sātavāhana ruler were found together in layer 8[1].

CATALOGUE OF MAHĀRAṬHI COINS

In this catalogue only the best preserved specimens have been taken into account, being of numismatic value. Among the several rejected ones there is a possibility of at least 20 coins of the Mahāraṭhis; but these cannot be distinguished from the other analogous coins of Viḷivāyakura as both the types have Bow and Arrow on their reverse and the Caitya symbol on the reverse.

[1] See page 140 below for further details.

No. 1334 Lead. Not illustrated
Sq. IV (3)

Obv. Caitya of two tiers with dot in each, surmounted by a tree with two branches at the sides.
Rev. Bow with string downwards, fitted with arrow pointing upwards (hereafter referred as BOW AND ARROW only)
Insc. (ix) . . . RASA MA (*restore* KURASA MAHĀRAṬHISA)
Span: ·54 in. Weight: 42 grains.

No. 1999 Lead. Not illustrated
Sq. I (9)

Obv. Obliterated.
Rev. Bow and Arrow with legend in the margin.
Insc. (ix) SA (?) . . . RASA MAHA . . .
KU (?) RASA MAHĀRAṬHISA.
Span: ·7 in. Weight: 46 grains.

No. 2235 Lead.
Ex. II (7)

Obv. Caitya in two tiers with a branched tree on right, wavy lines with dots in a rectangular space below.
Rev. Bow and Arrow with legend.
Insc. (ix) . . . YA KURASA MAHĀRA . . . SA
Span: ·5 in. Weight: 25 grains.

PLATE XV

No. 2659 Lead.
Ex. II (9)

Obv. Caitya, indistinct traces of
Rev. Bow and Arrow with legend
Insc. (ii) . . . MAHĀRAṬH(I) . . .
Span: ·5 in. Weight: 24 grains.

PLATE XV

No. 2662 Lead.
Sq. I (8)

Obv. Caitya of two tiers with dots in each arch, surmounted by a branched tree.
Rev. Bow and Arrow, with legend only the lower traces of which are preserved.
Insc. (ix) KURASA MA . . . SA (Kurasa Mahārathisa)
Span: ·5 in. Weight: 31 grains.

PLATE XV

No. 2771 Sq I. (8) — Lead. PLATE (correct from 2711 to 2771)

Obv. Caitya of two tiers with dots in each arch surmounted by a branched tree. Wavy lines below.
Rev. Bow and Arrow with legend.
Insc. (iv) RAṬHISA
Span: ·6 in. Weight: 50 grains.

PLATE XV

No. 2788 Ex. II (10) — Lead.

Obv. Caitya of three arches in two tiers with dots in each arch. Wavy lines and dots within a rectangular space.
Rev. Bow and Arrow, with marginal legend.
Insc. (ix)
KU (or SI ?)RASA MAHĀRAṬHISA
Span: 1·2 in. Weight: 298 grains.

PLATE XV

No. 2821 Pit. II (6) — Lead. Not illustrated.

Obv. Branched tree with five shoots; traces of caitya at the bottom.
Rev. Bow and Arrow, indistinct traces of, legend partially preserved.
Insc. (ix) . . . RAṬHI . . .
Span: ·6 in. Weight: 121 grains.

No. 2906 Pit. I (9) — Lead.

Obv. Caitya of three arches in two tiers with dot in each arch. Wavy line below.
Rev. Bow and Arrow, well preserved legend in the margin.
Insc. (ix).
KURASA (MAHĀ) RAṬHISA
Span: ·54 in. Weight: 62 grains.

PLATE XV

Note: This coin distinctly shows that the first word is KU and at any rate not S(I) which differs from the form of the letter SA at two places in the legend. A short line attached to lower right of the vertical in KA can distinctly be seen on the specimen.

UNINSCRIBED COINAGE

Besides the coins of feudatory rulers of the Sātavāhanas, above described, a few coins, recovered from the lowest levels of the excavations, show that they bore no legend whatsoever and have therefore been classed as uninscribed coinage.[1] From the associated finds it seems certain that these were used by the feudatories above referred to.

No. 1402 Lead.
Sq. II. (3)
Below Wall I Obv. Within a circle of dots, a seven petalled lotus with a pellet in the centre.
Rev. Indistinct.
Span: ·66 in. Weight: 20 grains.

PLATE XV

No. 2231 Lead.
Sq. I (9)
Obv. A branched tree with 5 shoots similar to No. 2821 on the Mahāraṭhi coinage.
Rev. Bow and Arrow; Traces of a legend (?)
Span: ·45 in. Weight: 24 grains.

PLATE XV

No. 4132 Lead.
Sq. II (6)
Obv. Śrīvatsa or shieḷd.
Rev. Bow and Arrow.
Span: ·5 in. Weight: 32 grains.

PLATE XV

The Nandipada as a symbol appears very rarely on Sātavāhana coins (See *Rapson, op. cit.*, Pl. VIII, 207, 208 and G.P.1.) but is fairly common at the beginning of several inscriptions of the period.

No. 4227 Lead.
Sq. I (6)
Obv. Obliterated. Probably figure of a Bull? But without any traces of legend.
Rev. Ujjain symbol.
Span: ·4 in. Weight: 5 grains. PLATE XV

[1] Several uninscribed coins were also found in the Chandravalli excavations in 1947. (*Ancient India*, No. 4. Plate CXXVII, 25-35) Nos. 25, 32, 33 and 34 among these have the Śrīvatsa symbol on the reverse, as on our coin No. 4132; but it differs in having a bow and arrow on the obverse in place of a caitya.

The coin is extremely tiny and weighs only 5 grains. It is probable that it belongs to one of the rulers of the Imperial Sātavāhana dynasty.

LIST OF REJECTED COINS

824	Ex. IV	(3)	Lead.
902	Sq. III	(2)	No numismatic value.
903	,,	,,	No value.
907	,,	(3)	Æ; corroded.
908	Ex. V	,,	Lead indistinct.
985	Sq. II	(4)	Indistinct.
1332	Ex. V	(3)	No numismatic value.
1603	,,	,,	Indistinct.
1617	Pit. I	(5)	Not brought to Poona.
1668	Ex. V	(3)	Lead; no numismatic value.
1670	Ex. IV	,,	Lead; indistinct.
1678 A	Pit. I	(6)	Æ; Flaked Śātavāhana.
1853	,,	,,	}
1854	,,	,,	} Lead; indistinct.
1855	,,	,,	}
1856	Sq. I	(7)	Copper lump.
1857	Sq. IV	(8)	Indistinct.
1958	Pit. I	(7)	Lead; indistinct.
2093	,,	,,	Lead; indistinct.
2282	Ex. II	(8)	
2307	,,	,,	}
2308	,,	,,	} Not brought to Poona.
2313	,,	,,	}
2327	Sq. II	(5)	Indistinct.
2335	Ex. II	(8)	
2336	,,	,,	}
2337	,,	,,	} Not brought to Poona.
2377	,,	,,	}
2379	,,	,,	Broken rejected.
2380	,,	,,	,,
2380 A	,,	,,	,,
2381	,,	,,	Flaked.
2416	,,	,,	}
2417	Pit. II	(6)	}
2458	Ex. II	(8)	} Not brought to Poona.
2467	Pit. I	,,	}
2468	Pit. II	(6)	} Corroded.
2469	,,	,,	}
2590	Sq. II	,,	Rejected.
2660	Ex. II	(9)	,,
2661	,,	,,	,,
2772	,,	(10)	,,
2773	,,	,,	,,
2822	Pit. II	(6)	,,
2825	Sq. I	(8)	,,
2826	,,	,,	,,
2836	Ex. II	,,	,,
2837	,,	,,	,,

2838		(8)	Rejected.
2839		,,	,,
2840		,,	Indistinct.
2907	Pit. II	(7)	,,
2908	,,	,,	,,
2972	,,	(6)	,,
2973	,,	,,	,,
2974	,,	,,	,,
2985	Sq. I	(8)	,,
2986	Sq. II	(4–4a)	,,
3054	Ex. II	(10)	,,
3054 A	,,	,,	,,
3067	Sq. I	(8)	,,
3154	,,	,,	,,
3527	Ex. II	(5)	,,
3484	,,	(7)	,,
3597			,,
3642	Sq. IV	(5)	,,
4078	Ex. III	,,	,,
4093	Sq. IV	(4)	,,
4094	Ex. I	(6)	,,
4209	Sq. II–IV	,,	,,
4282	Ex. III	,,	,,

Total number of rejected and unread coins 72.

(ii) POTTERY

CLASSIFICATION OF BRAHMAPURI POTTERY

Types and Periods

BAHMANI POTTERY:

Fig. 12. Type 1, 2, 4, 4A, 5, 5A, 6, 6A, 7, 8

Fig. 13. Type 20, 20A, B.C., 21, 21A, 22, 22A, 23, 23A, 24, 24A–B (Also in L. Śātavāhana), 26, 27, (also in L.S.), 27, A.B.C.

Fig. 14. Types 28, 28A, 29, 29A, 30, 31, 32, 32A, 32B, 32C, 33, 34, 35, 36, 37, Common to all.

Fig. 15. 40-45, 46AB, 47AB, 47C, 49, 49A, 50, 53, 54, 55AB, 56 partly, 59ABC, 63, 64.

Fig. 16. 65 Common. 65A, 66, 66A, 68, 69, 73, 74, 75.

Fig. 17. 84 (Solitary), 85, mixed 86, 99, 100 few, 103, 104.

LATE ŚĀTAVĀHANA:

Fig. 12. Type 3, 9, 10.

Fig. 13. 24AB, 25, 25A.

Fig. 14. 37, 37A.

Fig. 15. 56A (partly), 57, 58.

Fig. 16. 65 less common. 65B, 67, 68, 71, 76, 77, 77A, 77B, 78, 79, 80.

Fig. 17. 81 (Sporadic), 82, 87, 92 sporadic, 93 rare, 95, 97, 98, 100, 102, 105.

ŚĀTAVĀHANA: Fig. 12. Type 11, 12, 13, 14, 15, 16, 17, 18
Fig. 13. Type 22.
Fig. 14. 37, 37C, 38, 38A, 39.
Fig. 15. 48, 51, 52, 58, 60, 60A, 61, 62.
Fig. 16. 68, 70 Exclusive, 72, 73A, 76.
Fig. 17. 81, 81A, 83, 88, 89, 90, 91, 91A, 94, 96, 101.

The pottery has been studied and arranged in the following groups:

(1) BAHMANI (3) ŚĀTAVĀHANA
(2) LATE ŚĀTAVĀHANA (4) PRE-ŚĀTAVĀHANA

Majority of the pottery found at Kolhapur belongs to the first two groups as these were the only two levels explored by us to a considerable extent. Quite a large number of pots, complete and fragmentary, recovered from these levels are indicative of the variety of types. Our soundings were not sufficiently extensive to yield a fuller data for the Sātavāhana and pre-Sātavāhana levels. Only at three places we touched the rock and so here alone we have a complete stratigraphic sequence in the pottery types.

The stratification of the Mound, described above, was in several cases decisive and well marked by distinct layers. Commonness of pottery types found in different areas therefore presented no difficulty in assigning them to their respective periods but in some cases caution had to be taken so as not to include pottery from a few disturbed layers and the upheaval of soil apparently from the recent building activity near the site.

BAHMANI POTTERY

Fig. 12. Types 1, 2, 4, 4A, 5, 5A, 6, 6A, 7, 8.
Fig. 13. Types 20, 20A, 20B, 20C, 21, 21A, 22, 22A, 23, 23A, 24, 24A, 24B, 26, 27, 27A, 27B, 27C.
Fig. 14. Types 28, 28A, 29, 29A, 30, 31, 32, 32A, 32B, 32C, 33, 34, 35, 36, 37.
Fig. 15. Types 40-45, 46, 46A, 46B, 47, 47A, 47B, 47C, 49, 49A, 50, 53, 54, 55, 55A, 55B, 56, 59, 59A, 59B, 59C, 63, 64.
Fig. 16. Types 65, 65A, 66, 66A, 68, 69, 73, 74, 75.
Fig. 17. Types 84, 85, 100, 103, 104.

A very large amount of pottery recovered from the excavations belongs to the Bahmani period and is dated from the coins. For the purpose of dating pottery, types found in Square I, II, IV and Ex. II were very useful. This pottery is mostly recovered from the third layer at a general depth of 3-7 feet below the surface of the mound.

With the exception of a solitary miniature vessel (No. 880) which is hand-made, all the pottery of the period is wheel-turned. The normal degraissants used are sand, grit, lime and chopped straw mixed with rice husk. Only occasionally a few sherds treated with mica-dust have been found throughout these layers, some of which show a very thick patination giving the entire sherd a white silvery appearance. On others, particularly on vessels belonging to Type 65, a very fine sprinkling of mica is noticed on the belly which gradually diminishes towards the basal portion. This however is no indication that any particular portion of the vessels was subjected to a mica treatment as no complete specimens of pots treated with mica were found. Absence of vessels treated with this material in the Late Sātavāhana and Sātavāhana layers however indicated with certainty that the fashion must have been introduced in the Bahmani period only.

Another characteristic feature of the Bahmani pottery is the small decorative band which appears on the neck and occasionally on the shoulders (above or below the basal carination) of certain vessels of black slipped pottery (Types 20, 21, 22, 26). It is made by rubbing a steatite pencil against the vessel when in motion on the wheel. Several pencils of steatite with conical edges (cf. Plate XXXII. A.) due to this rubbing were found in the excavations and their absence again in the Late Sātavāhana and Sātavāhana layers indicated the origin of the practice sometime in the Bahmani period.

The fabric of the Bahmani pottery is usually a porous clay containing a very large amount of sand which burns red, pinkish and light red and *often black to a light coloured grey*. No superior type of pottery or special clay seems to have been employed and the fabric is generally very coarse, often very brittle and shows invariably the marks of chopped straw used in the making.

Slips are fairly common and a large percentage of pottery has a black slip varying from a jet black to greyish colour. Chocolate slip is also used and as it is altogether absent from the Late Sātavāhana and Sātavāhana layers it may be regarded as characteristic of Bahmani period. The percentage of red-slipped pottery is comparatively very small and those without a slip have a red burnt-brick appearance. A very negligible quantity of pottery has a thick coating of red colour, which, if it is not a slip, would appear to be painted.

Majority of the types are plain and utilitarian in character, the most commonly found types being the cooking pots (Hāṇḍi), drinking cups, dishes, saucers and loṭās. Majority of the vessels have a round base and show that they could not be used without a support which in many cases must have been the oven itself, as indicated by the soot-stained exteriors of several of them. Simple utilitarian devices like a spout, which was often made separately and applied on the shoulder of the vessel (rarely at the base), were used and a very large number of these broken from their joints indicated their widespread use. Spouted pottery however was a general feature with all the levels at Brahmapuri and was in no way restricted to

any particular epoch in the history of the mound. Pots with flat bases are very rare in the Bahmani period and seem to be used for vessels like the drinking cups, loṭās and small *jhāris*. There is a general paucity of ring-footed vessels throughout the excavations and their distribution limited to only two types (31 and 90, the former belonging to the Bahmani period and the latter assigned to the Śātavāhana period). Large storage vessels (like the *Rāñjaṇs*) were in use throughout as indicated by specimens actually excavated and the distribution of thick sherds. See Plates IX. A; X. A; XI. A; and XX. A.

Another ware which distinguishes itself in the Bahmani period is a glazed pottery with a buff or creamy yellow core and a greenish surface in different shades. The glaze in many instances is destroyed and presents a crackled appearance. Sherds of this ware were confined to layers 3 and 4 and undoubtedly belong to the Bahmani period. Evidence on several other sites in India, especially in the North, points to their foreign importation probably through Persia with the advent of the Muslims. The data from Brahmapuri is not inconsistant with this. No shapes of these vessels however could be reconstructed from the few fragmentary sherds obtained.

Incised Ware: Sherds with incised patterns are again very few in the Bahmani pottery. The most common decoration is the finger tip ornament generally applied on a band running round the shoulder of a vessel and pressed with cotton cloth in forms of loops or lozenges. Incised pecking consists of triangular marks running round the necks of several vessels, particularly common to Types 65 and 66. Broad bands and crosses in geometrical arrangements are also common, but they appear to be more or less a degenerated form of the more developed technique found in the Late Śātavāhana period, where "Eyes and Beads", "Maize" work and basketry form an important decorative motif. "Bead and string" motif noticed on a unique vessel (Type 69) of the Bahmani period, is absent from any of the earlier levels and is as rare as the vessel described below (p. 73).

The only evidence of a strainer being used in the Bahmani period consisted of two fragmentary sherds (No. 3691, Fig. 13: 19) having several holes pierced into them with a sharp nail which leave a burred edge on the underside. The fabric is the usual coarse pottery with a reddish slip and is no way remarkable. Perforated pottery is altogether absent in the other levels.

"Pottery groups" were very common in the excavation and at least two deserve a special mention. Group 1, was found immediately below the walls of a Bahmani house in Square IV near G/40 and consisted of 12 or more vessels. This contained several cooking *Handis* (Types 20 and 22), a pan (Type 7), three complete bowls (Types 43A and 43C), a spouted pear-shaped vessel (Type 74), one unique tall-necked vessel (Type 69), three loṭā-shaped vessels (Types 27A, 27B) and several broken sherds of pans and *ṭhāvakas* (Type 68). Besides this, one vessel (Type 21A) was

spouted and was the only one of this class throughout the excavation. The whole group appeared to be buried after a hurried meal and a photograph of it while extricating them justified the title "POTS AT WAR" as one of us humorously suggested. The sherds and complete vessels from this group were particularly helpful in restoring many of the vessels of the Bahmani period.

Group 2, recovered near K/20, contained only a few pots of Type 20B, 20C, two dishes (Type 1 and 19) and three small bowls (Type 43C).

Another group, found in Ex. II, consisted of one complete vessel (Type 24) being found inverted upon a large sized dish. The interior of the upper vessel contained a large amount of patinated layers of lime forming a small cavity. The exact purpose for this however could not be determined.

Bahmani pottery recovered at Brahmapuri on the whole shows a general crudity in types, inferior in its "make up" and lacks altogether a good finish which is characteristic of the vessels of the Late Sātavāhana and Sātavāhana periods. Very few vessels belong to the superior class; all those found seem to be manufactured for rough daily use.

LATE OR "POST" SATAVAHANA POTTERY

Fig. 12. Types 3, 9, 10
Fig. 13. Types 24A, 24B, 25, 25A.
Fig. 14. Types 37, 37A.
Fig. 15. Types 56A, 57, 58.
Fig. 16. Types 65, 65B, 67, 68, 71, 76, 77, 77A, 77B, 78, 79, 80.
Fig. 17. Types 81, 82, 87, 92, 93, 95, 97, 98, 100, 102, 105.

Plates XVII. A-B. (also Fig. 11); and Fig. 10: 1-3, 5, 10, 12-16; and Plate XVIII 1, 4, 9, 10 etc.

Pottery described here as belonging to the Late Sātavāhana period was recovered from layers 5 and 6 in the excavated area and was found at a varying depth of 8-10 feet below the surface. The period assigned to it could be determined from two small gold coins mentioned above (p. ?) and the position of the layers between the Sātavāhana and Bahmani antiquities. By Late or "Post" Sātavāhana is meant a period in the history of the site somewhere in the 4th century A.D. and the 9th century A.D. which was followed almost immediately by the Silāhāra and Bahmani layers. It would be best to refer to these layers as belonging to a period intermediate between the Bahmani and the Sātavāhana. A number of Sātavāhana coins lying immediately below these layers showed that not much time had elapsed and we decided in favour of the above nomenclature. It was confirmed by the continuity of several pottery forms emanating from the Sātavāhana layers and by the introduction of several new ones which tend to develop more conspicuously in the Bahmani layers, while they are totally non-existant in the Sātavāhana layers.

There are several individual types in the Late Sātavāhana period which do not occur in any of the preceding and subsequent stages in the strata at the site.

Types 38, 58, 67, 71 and 81 are common to the Sātavāhana and the Late Sātavāhana periods; but are not found in the Bahmani layers. On the other hand, Types 56, 65 and 100 belonging to the Late Sātavāhana period seem to continue in the Bahmani period as well, but are absent in the Sātavāhana period. Types, 57, 57A, 57B, 78, 79, 80, 87, 92, 93, 97, 98 and 102 are restricted to the Late Sātavāhana levels only and are characteristic for that period.

One of the outstanding features of the pottery of the Late Sātavāhana period is the wide range and a variety of forms. The vessels are remarkably free from the crudity noticed in the Bahmani period. They are very well burnt. Both in their fabric and finish they offer a pleasing contrast to the rough and coarse ware of the Bahmani period. Various slips are used. Vessels with a burnished black slip form a large bulk and a considerable number is shared by a red ware which differs from similar vessels, commonly found in the Bahmani layers. Bahmani chocolate-slipped pottery discussed above is absent from the Late Sātavāhana stratum and sherds with a typical black-sooted slip begin to appear. These however predominate in the Sātavāhana layers. Several vessels of this period have been subjected to the process of inverted firing.

Dishes, platters and cups occur in great abundance and on the whole show a tendency for large dimensions; they have well defined symmetrical forms. These include pitchers, pear-shaped vessels, basins, flared rims and jar covers. Vessels with a secondary ridge near the shoulders with a re-applied coating at the base (Type 77A, 77B) seem to be introduced in this period. Ringed pedestals are comparatively very few. Tall necked jars become more and more predominant and are developed from the Sātavāhana pottery of the preceding epoch. Spouted ware forms a fair percentage but seems to be restricted to certain shapes.

A noteworthy feature in this pottery is the enormous quantity of decorated and incised ware. The simple decoration consists of deeply incised criss-cross lines in bands on the shoulders, occasionally impressed with a comb in parallel lines or oblique strokes. Crescent shaped circles with numerous peckings are met with. But the most common motif has been a beaded design, arranged in imitation of the skin of a jack fruit and prepared by inserting into the wet clay the ends of a hollow cylindrical tube at regular intervals. A very large quantity of sherds decorated in this manner and a complete Khuja (Plate XVII. B.) recovered from the excavations bear testimony to the popularity of the design.

This Khuja, from Pit I, has a wide flaring rim, a short narrow neck with a spout on the shoulder, and an elliptical belly with a narrow base. It is decorated with alternate bands of bead work, the intervening spaces being left blank, with traces of a burnished red paint over a creamy brown slip. From the decorative point of view it is one of the best vessels found in the

Fig. 14
Decorated Khujas

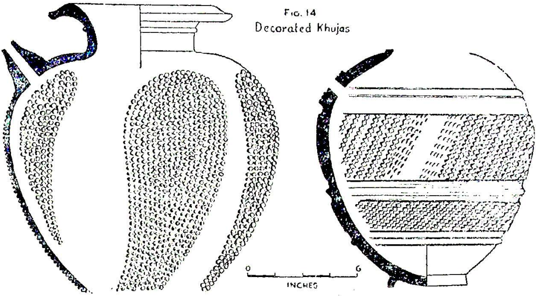
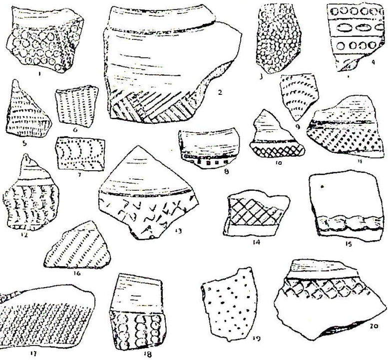


Fig. 13
Incised Pottery



excavation, though its workmanship is somewhat crude and the arrangement of the beaded bands asymmetrical.

Plate XVII. A. illustrates another spouted Khuja which has lost its neck, with a combed decoration on registers separated by prominent ribbings. It was obtained from a neighbouring unstratified area. (See also Fig. 14.)

Large number of beaded sherds indicate that only the portion below the ridge on the shoulder was reserved for the bead work; red slip was used for the plain portion, bead work being left unslipped.

In rare instances beadwork is separated by vertical strokes of combed markings, which relieve the monotony and produce a very pleasant effect. Scales subjected to comb treatment introduce a new variety in this decoration. The "Eye and Bead" motif occurs on some sherds which probably belong to one and the same vessel and show an unusual technique. The fabric of these sherds is a soft whitish creamy clay, with traces of orange paint over them on the exterior.

The distribution of beaded ware, though mostly confined to the Late Sātavāhana layers, is not restricted to that layer alone. Stray sherds have been noticed in the Sātavāhana layers in a very negligible quantity. Certain sherds of a similar ware occur in the Bahmani layers also but show a very inferior work in the mode of decoration. Thus the presence of this ware in all the three main periods at the site would indicate a general continuity for a very long time; but a quantitative analysis shows its probable origin in the Sātavāhana period, a maturity in the Late Sātavāhana period and decline in the Bahmani period.

ŚĀTAVĀHANA POTTERY

The pottery from the lowest levels of the excavations, as already stated above, is dated by numerous Sātavāhana coins. It is considerably different from the types noticed in the Bahmani layers, there being only one or two types which are common to both (e.g., Type 37). One of the characteristic features which distinguishes the Sātavāhana pottery from the rest is the generous use of a black burnished slip, which is found to contain a very large amount of soot. Vessels found in Sq. I, II, deepest levels of Pit I, II and Ex. II, yielded an enormous quantity of this ware. This ware however is not so lustrous as the Northern Black Polished Ware (*Ancient India*, No. 1, pp. 55-58) and lacks the elegant finish usually associated with it. Few thin sherds, lying almost immediately above the rock in Sq. I, and a complete vessel, similar to our Type 7 preserved in the Kolhapur Museum recovered from earlier excavations, however definitely indicate the sporadic occurrence of the N. B. P. Ware at Kolhapur and confirm their early date as before the commencement of the Sātavāhana period in the Deccan. The sherds of this ware at Kolhapur have almost a steel-like appearance and an unusual thinness, a feature which is also shared by a few other sherds with deep brown paint and a lustrous

finish. In both the cases these sherds were too small to form any shape and the limitations of the excavated area exhausted the possibility of finding more.

The Dull Black ware is more confined to the Early Sātavāhana and Late Sātavāhana levels (Layers 6-10); and predominates amongst vessels of Type 14, 52 and 62 described below. In the common form of a dish (Type 14 and 14A) the tendency is to cover the whole of the interior and some portion of the rim on the exterior, while the base of it is generally left uncovered by slip of any kind. Cup-shaped bowls (Types 52, 62 and 89) appear to be similarly treated. Numerous fragments of vertically beaked rims often rendered it very difficult to choose their shapes from Types 14, 14A and 52, 62 but it seems well nigh certain that the bowls were in a considerable minority than the dishes as noticed from the fewer specimens of the former. The interior of several miniature vessels have also been subjected to this kind of black slip but the exterior is invariably found treated with a bright red slip.

Another feature noticed in Early Sātavāhana pottery is a ware which has a dull matt surface with thick walls which appears to have been produced by covering the vessel with grass while its clay was still wet. The interior of this ware has a burnished brownish slip and occasionally a clay wash was given over the impressions left by grass. Sherds of this ware do not occur in any appreciable quantity and its use seems to have been discontinued soon after Sātavāhana period, as this ware is altogether absent in the Late Sātavāhana levels. In the case of one unique spouted vessel Type 74, belonging to the Bahmani period, an identical technique of covering the exterior with grass before firing is noticed but its walls are thinner than any of the specimens in the lowest levels.

Kaolin covered pottery: Amongst the special types of pottery in the Sātavāhana period, mention may be made of a ware, which is entirely made of a whitish clay called kaolin. Numerous fragments recovered from Pit II and Ex. II showed that they formed parts of larger vessels with different carinations; but the reconstruction of their shapes was not possible. These sherds were often burnished leaving a very smooth surface and a fresh appearance. The only complete vessel which bears a kaolin slip was a flat based tumbler (Type 60A) which has the usual red clay base in the interior. Much of the slip however has now a charred appearance as it was recovered from the debris of a house destroyed by fire. The use of this special clay however seems to have been restricted particularly to small figurines. In one instance, numerous fragments of a seated image (No. 2856) showed that it was prepared from a mould and left hollow in the interior. The structure of the sherds indicated that a fine paste was used for the parts directly in contact with the mould and sand was subsequently added to roughen the interior. Kaolin was also used as a slip for certain moulded terracotta figurines, e.g., in the male figure holding a parrot (No. 2856A) Plate XXI. C. and indifferent baking under reducing

conditions have often left a bluish grey colour on the exterior, particularly in the deeper crevices of the folds of the garments.[1]

Imported Ware: Several sherds and two complete vessels found in the excavations showed that a superior type of pottery was occasionally used on the site during the Sātavāhana period. This ware has a light salmon red painted surface which sometimes turns to pinkish grey or yellow and bears a highly polished slip. Its interior is generally rough, but the exterior has a characteristic smooth feeling which is altogether lacking in any of the well-made pottery at Kolhapur. From the scarcity of this ware it may be presumed that this ware was probably an importation.

Though the numerous sherds found were generally insufficient to give an idea of the shapes in all cases, several appeared to belong to rimless vessels. Tall, funnel-shaped necks amongst these belonged to ellptiod vessels with vertical spouts, a complete specimen of which was fortunately discovered on the floor of the Sātavāhana kitchen in Sq. I. Plate XIX. A. A metal proto-type and numerous sherds of this ware were also found in the earlier excavations on the site cf. Plate XXXIII. D. 1.

Another vessel, recovered intact, was a small bowl with an omphaloid base (No 3590). (Fig. 19; Type 73*a*).

The distribution of the sherds of this *de-luxe* pottery was as follows:

Sq. I (8)	22 ft.	Sq. IV (6)	13ft. 3 in.
Pit. I (7)	24 ft.	Sq. II (6)	14–17 ft.
Ex. IV (7)	17-20ft.	Pit. II (6)	17 ft.

This pottery is also noticed on several other sites belonging to the Sātavāhana period, in the Deccan, discussed elsewhere in this report.

Large storage vessels: In the Sātavāhana levels in Sq. I. a large storage jar was found embedded at the farther end of the kitchen pavement. (Plate X. A.) This vessel, measuring about 2ft. 5in. in diameter and about 2½ feet high had a conical tapering base, with very thick walls and a large rim. On account of its firm position in the soil it was in an excellent state of preservation and was extricated without difficulty from the solid packing of dark earth in which it was laid. Another large storage Ranjan was also laid bare on the floor of a room of a house on Md. I. (Plate XX. A. and IX. A. 6.) Both these were photographed *in situ* but no drawings could be prepared. Though large storage vessels were recovered intact only from the Sātavāhana levels, from the occurrence of large thick sherds, the usage of such vessels continued throughout the occupation of the site in the Late Sātavāhana and Bahmani periods.

[1] In this respect this ware is identical in technique with similar pottery from Arikamedu (Types 3, 4, 8, 9, 11, etc.) where the characteristic grey slip is stated to be resultant from an aqueous suspension of kaolin and the bluish shade due to traces of ferrous oxide. *Ancient India,* No. 2, p. 51; Similar vessels of the Śātavāhana period were recently found in the Nasik Excavations also (Mg.N. No. 204).

DISHES (Fig. 15)

A large number of dishes and their fragments indicate that this utility-ware was in common use. It is one of the types recovered from all the levels and shows a very wide range in their shapes. The clay used for this ware is generally very coarse and contains an amount of chopped straw which strengthened the build of the flat dish. The fabric shows numerous varieties of clays used for the purpose. Three or four main changes in these are to be noticed. A dark porous black clay used for the very large majority of dishes is invariably without any slip, but sometimes is treated with a similar wash. It is generally not very well fired. In another type the same clay is subjected to a very intensive firing, is turned on a fast rotating wheel and is treated with a chocolate slip which is found restricted to vessels in the Bahmani layers. The bases of these dishes have in several instances a soot stained exterior and very likely they were used as frying pans. Red ware is very scarcely noticed among the types obtained in the Bahmani layers; it occurs in a fair quantity in the Late Sātavāhana period and is totally absent from the Sātavāhana layers. In the last mentioned layers all the dishes tend to have a uniform shape (illustrated by Type 14) and have a distinct salt-glazed glossy appearance which is unrepresented in any fabric from the two subsequent levels. Occasionally some of these dishes have a slightly pinkish yellow slip but it is of a very rare occurrence.

The shapes of these dishes vary generally in the form of the rim, some notable distinctive types having a small applied ring at the base, a feature common in the Bahmani layers but absent from the Late Sātavāhana and Sātavāhana layers. The size of an average dish varies from six inches to one foot in diameter but one exceptionally large dish measuring about 1 ft. 6 in. in width was found resting over the walls of the Sātavāhana kitchen in Sq. I.

The following are the main types recovered:

Type 1 A complete dish of dark black clay found in pottery Group 1. It has a small flat rim and a prominent ridge near the basal carination and a sagger base. The fabric is a coarse black clay with a clayee wash and the vessel is well fired. Bahmani period.

Type 2 is another varient of Type 1 but differs from it in having a characteristic everted lip blunted at the edges with flanged sides for the rims. The fabric is the same coarse clay used for Type 1 but shows signs of indifferent firing. The vessels are very heavy and rotated on a fast running wheel as shown by the striations. Like Type 1, they occur in great profusion throughout the layers of the Bahmani period.

Type 3 is a solitary fragment of a large sturdy dish with thick walls. The type differs slightly from the arch-type in having an out-turned beaked rim with sloping sides and a very prominent ridge near the shoulders. The fabric is the usual coarse clay mixed with chopped straw. The pot is

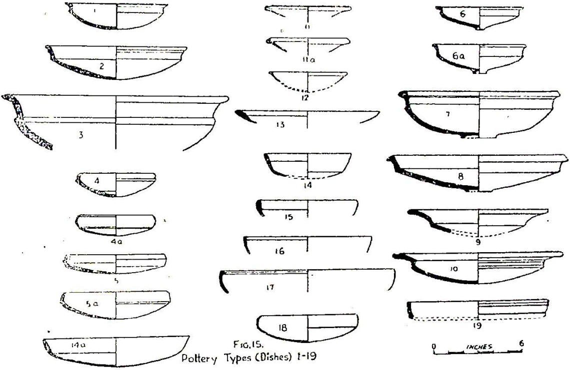


FIG. 15.
Pottery Types (Dishes) 1-19

very carefully turned and well fired. It bears a dark black polished slip probably due to salt glazing. It probably belongs to the Late Sātavāhana period.

Type 4 is a small dish intended to be used as a jar-cover. It has a small incurved rim with a beak and a distinctive grooving to the basal carination. The fabric is a reddish clay with a pink red slip. The exterior is stained with soot. Identical ware was used for Type 29A. Bahmani period.

Type 4A is a varient of the arch type 4 and differs from it in having a clubbed rim projecting inwards and a distinctive groove near the base. The fabric is a very light, dark coloured clay, hard baked and with a clayey wash in the interior. It has a soot-stained exterior. Bahmani period.

Type 5 has a characteristic thick rim slightly incurved and a comparatively thinner wall for the pan. The fabric is a coarse clay with a chocolate red slip in the interior while the exterior shows marks of contact with fire. Bahmani period. This ware occurs in great profusion throughout the period of the Bahmani occupation of the site.

Varient 5A, occurring in the same layer differs from the arch type in having a sagger base.

Type 6 is a dish with flat rim with a foot-ring at the base and a carination at the waist. Its fabric is a coarse clay with orange red slip in the interior while its exterior below the basal carination is unslipped. Varient 6A differs from the above in having a projecting rim and a broad ring base. Both these belong to the Bahmani period.

Type 7 differs from the above two in having a beaked rim and slight mouldings in the interior walls of the pan. The ring base is broader to suit the size of the pan. Its fabric is identical with Type 6 and 6A and shows marks of indifferent firing. Like the above two types it belongs to the Bahmani period.

Type 8 shares identical characteristics with Type 7 in having a beaked rim and the walls are slanting. The base ring shows that it was applique work which has come off from the pan to which it was attached. The fabric is a coarse dark clay with a chocolate slip on the exterior while the interior is unslipped. Bahmani period.

Type 9 is a shallow dish with a flaring wide rim and a sagger base. It has no foot-ring. Its fabric is a well levigated clay with a pinkish slip all over. It belongs to the Late Sātavāhana period.

Type 10 is a varient of Type 9 and differs from it having a prominent grooving near the rim and a number of corrugation marks on the exterior of the pan, which has a sagger base. The type occurs very profusely in the Late Sātavāhana levels. Its fabric is a yellowish dusty clay, laden with sand and grit with a pinkish burnished slip.

Types 11-18 represent various types of dishes recovered from the Sātavāhana levels. The outstanding feature is that they are all covered with a dark soot stained slip in the interior as well as on a considerable portion on the exterior. There is a general tendency to have the black slip

covering upto the basal carination, but sometimes the whole of the dish is covered with this characteristic black slip.

Types 11 and 11A are dishes with a triangular section and have prominent clubbed rims.

Type 12 probably a jar-cover, has a spherical base, with thin walls and a projecting rim. Type 13 differs from Type 11 and 11A in having a thick clubbed rim and a flat base.

Type 14 is a well made dish which may be called the characteristic type of the Sātavāhana period at Kolhapur and occurs in a very large quantity. The type has vertical walls with a blunt end without rim and a sagger base. The fabric of this ware is generally a coarse clay which burns pinkish red, usually containing an amount of chopped straw and grit. It is first coated with a pink slip all over and burnished with a sooted slip both in the interior and the exterior, in most cases the latter upto the basal carination only.

Types 16, 17, 18 are varients of Type 14 and 14 A and do not differ from the main type in their make up. The minor variations occur in the shaping of the rims and the thinness of the walls. These vessels mostly recovered in fragments do not indicate whether some of them were intended to be used as dishes or as small bowls with tapering sides. Type 18 is the best represented shape of a complete dish, with incurved walls and a narrow converging base.

TYPES 20-27 (Fig. 16)

Type 20 is a very common cooking vessel (Handi) which occurs in great profusion in the Bahmani layers. It seems to be a popular type and shows minor variations in the position of the carination on the belly. The type has a rim, square in section, sloping walls with a hook-shaped profile near the neck, a prominent ridge in the centre of the belly and a rounded base, which is invariably soot-stained. The walls of this vessel are usually very thin. The fabric is generally a coarse clay containing chopped straw and an amount of lime. The vessel has invariably a dark chocolate slip on the exterior, which is sometimes noticed partially on the underside of the neck, the interior being unslipped. The vessels are generally well fired. A characteristic feature of certain vessels of this type is a broad band which occurs on the shoulder and sometimes on the neck, produced by rubbing a pencil of steatite over the slip when the clay was sufficiently dry or while the pot was still on the wheel. Several sticks or pencils of steatite used for this, sometimes pointed or blunt by constant use, have been found in the excavations.[1] This rubbing gives the vessel a shining lustre on the portion treated and when fresh must have added to its beauty. This feature is absent in the pottery in the Late Sātavāhana and Sātavāhana

[1] Modern shining silvery pottery can be bought in the Kolhapur market today; but the tendency is to coat them all over the body on the exterior and the slip used is generally a cheap foreign paint.

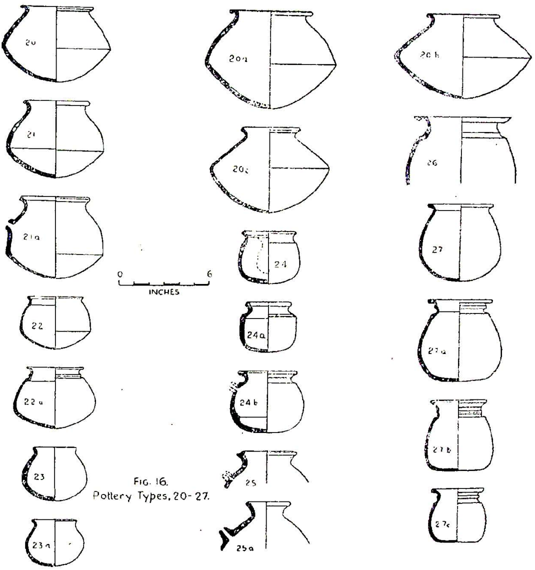


Fig. 16.
Pottery Types, 20-27.

levels and is thus restricted to the Bahmani period only. (Plate XVI, 1st row, 1)

Varient 20A differs from the arch type in having a bulging body above the central carination and a grooved rim. (Plate XVI, 3rd row, 1) Another varient 20B is a red ware vessel of the same type and has a prominent flanged body with a narrow neck which makes it convenient to lift. (Plate XVI, 1st row, 3)

Type 21 is a varient of type 20 and is distinguished from it by its height above the basal carination which appears on the lower portion of the belly. It has a similar square rim and the bulging sloping walls of the shoulders are considerably thicker. The fabric is a dull black clay with identical slip on the exterior. Steatite markings are seen as on the previous type. Numerous sherds of these vessels show that the type was very popular, though their attribution either to Type 20 or 21 was not certain, on account of their fragmentary state. One vessel (No. 288) was found to contain an amount of lime which possibly indicates that vessels of type 21 were used for other purposes besides cooking. (Plate XVI, 1st row, 3)

Varient 21A apparently belongs to the same type but differs from it in having a spout on the central portion of the upper ridge. The clay used is dull black without any slip. The spout which was applied after the vessel was potted shows a burred edge due to piercing.

Type 22 is a very common form of a carinated pot with tapering sides and a well defined rim with a pronounced lip and a slanting base. The type occurs very profusely and is one of the main characteristic types from Brahmapuri. The fabric is a very coarse ware, generally red for the Bahmani period; but when black, is invariably treated with a chocolate slip. For the pottery of the Late Sātavāhana and Sātavāhana periods this type often bears no slip. From the soot-stained exteriors of the rounded bases, these vessels appear to be used as cooking pots and have a convenient grip. Varient 22 A, shows a prominent ridge on the shoulder, an out-turned rim with a lip and the profile shows angular forms near the base.

Type 23 is a small *loṭā*-shaped vessel with a narrow neck and a bulbous body and an almost flat base. The fabric is the common red ware without any slip. Soot-stained bases show that it was used for heating purposes. Very scarcely represented and found in the Bahmani layers only.

Type 24 is another *loṭā*-shaped vessel with a rounded base. The walls of the vessel are considerably thick, especially, towards the base which makes the bottom heavy and convenient to rest on the floor in spite of the rounded base. It is a black ware with no slip and occasionally has a soot-stained bottom. One vessel belonging to this type (No. 1499) was found inverted in a shallow dish and contained some lime or a whitish looking substance well arranged in patinated layer with a central hollow. Its exact purpose could not be determined. Nor was it possible to say as to why the vessel was kept upside down in the dish. Varients A–B have a bulbous body with a prominent ridge on the neck of concave profile, and a well defined, thick, out-turned rim. The fabric is a coarse ware black in

section with a reddish exterior and a worn slip. 24A represents the simplest variety but 24B differs from the parent type in having a grooved rim and a spout on the shoulder below the carination. The spout was separately made. When found, one pot of this type (No. 3781) contained the remnants of some liquid which leaves a whitish residue. The type is of common occurrence in the Bahmani layers but appears sporadically only in the Late Śātavāhana period.

Type 25 is a small red ware vessel having a high distinguished spout on the shoulder and a flat rim incised with a deep groove. The body was probably globular in shape. The fabric is a coarse red clay with a reddish slip and traces of paint on the exterior and upto the neck in the interior. The type belongs to the Late Śātavāhana period. Several miniature spouted vessels of identical shape have also been found in the same layers. Varient 25A has a beaked rim above the shallow groove on the rim. The spout was separately made and was applied to the shoulder and is now broken off. The fabric of this type has a dark red slip on the exterior while the interior bears no slip at all.

Type 26 is a large *loṭā*-shaped vessel with a prominent flaring rim, almost triangular in section, with pointed ends and a bulging body below two ribbings on the neck. The fabric is a coarse black pottery with considerable amount of chopped straw in it. It has a dark black slip on the exterior and a band of steatite pencil rubbing appears below the carination of the neck. The base of this vessel is not known. The vessel is of very rare occurrence, and is attributed to the Bahmani period.

Type 27 is a *loṭā*, very commonly used even today. It has an outturned rim, an elongated globular body with wide neck and a flat base. It has a coarse fabric, generally red, but more commonly black with a distinctive chocolate slip. The type occurs in great profusion in the Bahmani layers and sporadically in the late Śātavāhana levels. Types 27A, B and C from the Bahmani layers show the different variations in their shapes. (Plate XVI, 4th row, 1-2)

TYPES 28-39 (Fig. 17)

Type 28 is a red ware vessel with a bulbous body and a distinctive groove on the shoulder and a ribbed neck. The fabric is a very coarse clay resembling brick and contains an amount of sand which makes it very porous. It was recovered near the base of a large masonary wall in Sq. II. Varient 28A differs from the main type in having a slightly prominent bulging body and absence of any ribbings on the neck. It belongs to the Bahmani period and is very scantily represented.

Type 29 is a rare *loṭā* with a carination on the shoulder, a short neck and a flat rim. The fabric is a fine red clay with a pink-red slip and the type is to be noted for the extremely thin walls rarely found in the pottery of the Bahmani period.

Varient 29A differs from Type 29 in having a vertical wall below the carination on the shoulder and shows a number of ribbings on the neck

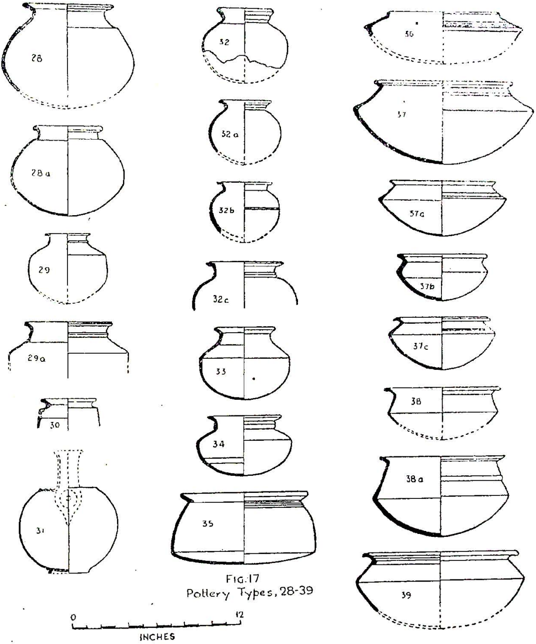


FIG. 17
Pottery Types, 28-39

as well as the rim. The walls of this vessel are similarly thin though its base is not known. The fabric is the usual black clay, well burnt and bears a chocolate slip. Bahmani period.

Type 30 is the fragment of the neck of a pot with thick rim and straight sloping sides below the carination on the neck. The fabric is a coarse gritty red ware with a pinkish slip on the exterior and partially on the rim.

Type 31 is a spouted vessel, unique among the pottery found at Brahmapuri. It has a rounded body, a prominent platform on the top which probably held the vertical stem of the tall neck. This platform has a number of raised concentric groovings while the base has a ringed pedestal. The region round the spout is decorated with a pattern resembling a *Yoni-pīṭha* of a Śiva-*liṅga*. The fabric is a very coarse black clay painted red on the exterior and a dull black slip in the interior. The walls of this vessel are considerably thick. The decoration is a Śaiva symbol and indicates one of the religious faiths of the inhabitants of the Brahmapuri site. It belongs to the Bahmani period.

Type 32 is a common *loṭā*-shaped vessel with a round body and a small rim which affords an easy grip, and is generally thickened on the exterior. The vessel is usually slipped on the exterior and occurs in great profusion in the layers of the Bahmani period. A simple form is represented by No. 3592 which has thin walls and is made of a dull whitish grey slip, while 32B (Plate XVI, 5th row 1) bears a dull reddish slip on the exterior and has some distinctive features in having a flanged rim to receive a lid. Two broad incised bands appear on the belly and the specimen is well potted. Varient 32C differs from the arch type in having a pronounced ridge on the rim and a number of corrugations on the neck. The fabric is a light coarse clay. It has a black slip on the exterior which is burnished with a shining silvery steatite pencil. The specimen is one of the few examples where a complete pot has been treated in this manner, the most popular way of decoration being a broad band appearing frequently on the shouldered rim or ridge near the carination as on Types 20 and 21 already described.

Type 33 is a carinated *loṭā* found in the drain in Ex.V (cf. Plate II B.) and it is likely that a water chute or a cylindrical tile emptied into this pot, in the passage between two buildings of the Bahmani period noticed in Sq. IV. It has a prominent ridge on the belly and a slightly concave profile on the upper body. It has a beaked rim. This type is otherwise very scantily represented in the Bahmani layers.

Type 34 is another varient or a sub-type of 33 distinguished by prominent ribbings on the neck. Its fabric is a dark black clay with a similar slip on the exterior. Found in pottery group 3 belonging to the Bahmani period.

Type 35 is a solitary specimen of a jar having a very wide mouth and a beaked rim projecting inwards. It has a flat shallow base and a comparatively short height. The fabric is very coarse black pottery with a a chocolate slip on the exterior.

Type 36 is an extremely rare sherd of a rimless vessel with a grooved end for receiving a lid. It has a number of ribbings on the shoulder with a distinctive beaked carination. The fabric is a well levigated clay, brownish in appearance and a dark black polished slip on the exterior. The basal portion is missing but was probably round common to several types of cooking vessels. It belongs to the Bahmani period.

Type 37 is the most popular type from the Brahmapuri excavations and occurs in great profusion in all the layers. As can be seen from the soot-stained exteriors in majority of vessels recovered, it is evident that it was mainly used as a common cooking vessel. It has a convenient, well defined carinated shape with a wide mouth and short sloping sides above the waist and a rounded base with sharp curves. The portion below its neck is invariably decorated with a number of corrugations. The short rim affords an easy grip which is sometimes flanged internally for receiving a lid. The fabric of this ware is generally a dark black clay and the constant heating and re-heating to which the pot was subjected caused cracks in the utensil at a number of places, when it was finally discarded. In the Bahmani and Late Śātavāhana periods the clay is generally black, but the fabric is red in most of the cases among vessels of the Śātavāhana period with an occasional black.

Varient 37A is of an identical fabric but has a black burnished slip. Type 37B, belonging to the Late Śātavāhana period deviates from the main type in having comparatively thicker walls and its carination on the waist is less angular, a feature not so common in the vessels of this class in the Bahmani period. Varient 37C, belonging to the Śātavāhana period, has a prominent out-turned rim and a flange to receive a lid and an almost pointed base. The fabric is a very coarse gritty clay with a considerable amount of lime in it. It bears no slip.

Type 38 deviates from Type 37 in having wide flaring rims and the sides near the shoulders are less oblique than in the previous type. A superior clay is used which often bears a dark pinkish slip which very nearly approaches the imported ware discussed elsewhere in the report (p. 60). Varient 38A has three prominent corrugations on the shoulder and comparatively thicker walls in the rounded portion of the base which makes it bottom heavy. Both these vessels were recovered from layers of the Śātavāhana period and use a red clay which is very well levigated.

Type 39 also belonging to the Śātavāhana period, differs in the shape of the rim which is curved with a beak-like projection in the interior of the vessel. This feature however is noticed in a few specimens of the period.

TYPES 40-64 (Fig. 18)

Types 40-45 represent a series of small bowls mostly from the Bahmani layers, and with the exception of some individual peculiarities these can be classed as one. These bowls have a wide open mouth with an out-turned rim, a carinated body with a prominent bulge at the waist and a round base. Type 40 represents the most common and the simpler form,

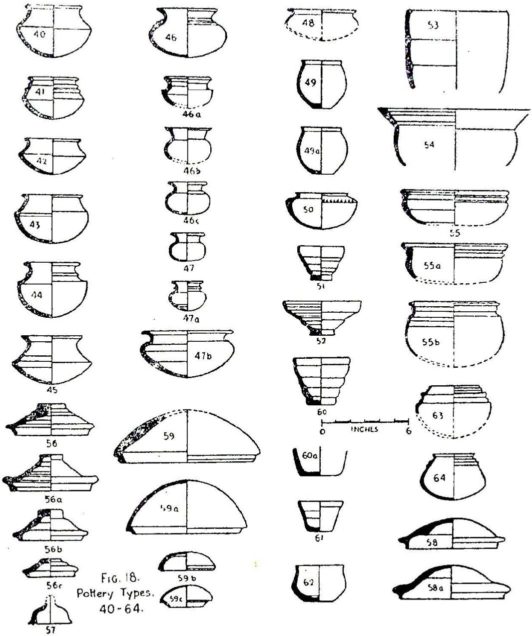


FIG. 18.
Pottery Types.
40-64.

Its fabric is the common red ware without any slip and it occurs in great profusion throughout the Bahmani layers. Type 41 (Plate XVI 3rd row 3) varies from Type 40 in having a distinctive ridge near the waist, a slight curvature near the rim and uneven finish for the sloping sides above the waist. Type 42 (Plate XVI 2nd row 3) is characterised by the shortness of the height and a beaked rim and occurs only sporadically throughout the excavations. Type 43 (Plate XVI 2nd row 2) shows a flat rim at the top. Its fabric is a coarse black clay with an identical slip. Type 44 (Plate XVI 3rd row 2) shows a prominent ribbing near the neck and a grooved rim with a flange to receive a lid. Its fabric is almost identical with Type 43. Type 45 is a rare shape characterised by a sharply incurved body near the neck, is decorated with three or four groovings. Its base is less rounded and the basal carination is very prominent. Like Type 44 it has a grooved rim with a flange to receive a lid. Its fabric is a dirty looking clay with a greyish slip and its distribution is limited to Sq. IV where only two specimens were recovered from the Bahmani layers. The shapes of these bowls indicate the popularity enjoyed by the type.

Types 46-47 represent another variety of the miniature bowls. They are characterised by a large elliptical body and a flaring rim which is often decorated with a number of ribbings on the neck. Type 46 represents the largest bowl of this class. Its fabric is a coarse red clay with a bright red slip and occurs in the Bahmani layers in a moderate quantity. Type 46A (Plate XVI 2nd row 1) is a fragment of a similar bowl, having very thick walls and a prominent ridge near the neck in the interior. This type is extremely rare and restricted to the Bahmani period only. Type 46B is a small black ware miniature bowl, somewhat simpler in form and accounts for as many as 12 vessels found in the Bahmani layers. 46C deviates from 46B in having a two broad bands on the neck. Its fabric is identical with type 46B described above but has a bright shining slip which indicates that it was probably glazed. This feature is only very rarely noticed in the pottery of the Bahmani period and was perhaps restricted to miniature vessels. Types 47 and 47A share the same characteristic as Types 46 B-C but deviate from them in the manner of the decoration on the neck. 47C has a very thin projecting rim, a feature which is absent in the types described above. All these vessels are glazed with a black shining slip. Their distribution is limited to the Bahmani layers and the shape does not recur in any of the preceding levels.

Type 47C is a rare red ware bowl with a characteristic flaring rim, a sunken profile near the neck and an elliptical base converging at the centre of the base. Its fabric is a red clay with a pinkish red slip and belongs to the Bahmani period.

Type 48 is a rare fragment of the rim of a miniature pot and shows that it probably belonged to a type identical with Type 46; its fabric is the common red ware with a bright pink slip on the exterior, the interior being left unslipped. It belongs to the Sātavāhana period.

Type 49 (Plate XVII C. Last row 1) is a rare drinking cup with a flat

base and a globular body with slightly out-turned rim. The walls of this cup are very thick with a heavy bottom. The fabric is a very coarse black clay without any slip. Varient 49A shows some minor changes in the thickening of its walls. The type is restricted to Bahmani layers only and does not occur frequently.

Type 50 is a rare bowl with a short neck and a prominent carination at the shoulder. It is almost without any rim which is grooved to receive a lid. A number of triangular peckings appear on the shoulder. Its fabric is a dull black dirty looking clay with a similar slip on the exterior. It belongs to the Bahmani period.

Type 51 is a rare cup with tapering sides and a flat base. Its fabric is an extremely coarse red clay containing an amount of chopped straw and lime with no slip. It is finished by a clayey wash which gives it a very rough appearance. It belongs to the Sātavāhana period, where it occurs in moderate profusion. The base has a number of focused groovings which show that it was separated from the wheel by means of a thread.

Type 52 is another flat based cup with flaring sides and is one of the important types found at Brahmapuri. Its fabric is levigated reddish clay, well burnt. The interior of the vessel is treated with a black soot slip which extends over a certain portion of the vessel on the exterior up to the sloping sides. The lower portion of the vessel is treated with a pinkish red slip. Soot-treated vessels of this type is a peculiarity of several vessels found in the Sātavāhana layers and several hundreds of sherds of vessels belonging to this type were found in the excavation showing that the type was very common. The characteristic rim of these vessels is also noticed among the dishes of types described above and among the countless sherds it was often difficult to distinguish between a cup and a dish. Curvature of the basal portions, ridges and other features however helped; and it was found that the cup-shaped vessels were in a great minority over the dishes. Presence of the flat bases of the cups in a moderate quantity also supported the conclusion.

Type 53 is a unique fragment of a large vessel with vertical sides, a rimless flat top and slightly incurved wall in the interior. The fabric is a coarse black clay with a thick dark chocolate slip. The present one is the only specimen with vertical sides known from the excavations. It belongs to the Bahmani period.

Type 54 is a fragment of a bowl with a flanged flaring rim with sloping sides and a globular body. The rim which is considerably thick has two incised lines near the edge and the walls are very thick. The base of this type is not known. It has a coarse fabric with a chocolate slip on the exterior. It belongs to the Bahmani period.

Types 55 and 55A represent a series of vessels from the Bahmani layers which were probably used as receptacles having lids. These are of a comparatively short height with a flat base and slightly bulging sides and a flaring rim with a groove in the interior. The fabric is a red clay, well

levigated, with a reddish slip on the exterior. These occur in great profusion though no entire specimen could be recovered.

Type 55B is another receptacle having a prominent rim with a flange, a carinated ridge on the shoulder, thick walls and a medium height. Its fabric is almost the same as Types 55 and 55A noticed above. It belongs to the Bahmani period.

Types 56-58 represent the types of jar-covers found in layers of different periods.

Type 56 is characterised by a high blunt knob-like top with sloping sides and an incurved rim apparently made to fit into the neck of the vessel intended to be covered. The ware is generally red without any slip and is of a coarse fabric. It is commonly found in the Bahmani and Late Sātavāhana periods. Type 56A is a simple varient of Type 56 with a prominent rim for the lid. Type 56B (Plate XVII C. 1st row 1) shows a curved beak-like strut at the base. Type 56C (Plate XVII C. 1st row 3) has identical features but the sides do not slope as in specimens of Type 56A–B.

Type 57 is an extremely rare lid of a jar with a prominent top and an incurved basal rim. The rim has two deeply incised grooves all round and probably were held by a knob-like holder at the top which is broken. The fabric is a gritty coarse red-ware without any slip but had probably a clayee wash. It belongs to the Late Sātavāhana period.

Type 58 (Plate XVII C. 1st row 2) is another variety of a jar-cover with a flattish, rounded top and a slightly incurved lip below the basal carination. The type has a very coarse fabric, resembling brick, with a dark red slip. These lids are confined to the Sātavāhana layers generally but also occur sporadically in the Late Sātavāhana period. They are absent in the Bahmani layers. Varient 58A is characterised by thicker walls with numerous corrugations of the wheel in the interior and considerably well potted.

Type 59 and its varients indicate another variety of a jar-cover which is characterised by a high bulbous body with a short rim and a flange for covering the rim of the vessel over which it was placed. Stained walls of these covers indicate that these often came in contact with fire, and consequently have become very brittle. Type 59 is a fragment showing considerably thicker walls in the globular body, whereas the varient 59A (Plate XVII C. 2nd row) has walls of a uniform thickness. The globular body of these covers is intended to collect the vapour from the boiling pots covered by these to help and cooking. The fabric of both these covers is a dull black clay containing an amount of sand and lime and bear a greyish slip. Both of them belong to the Bahmani period.

Varient 59B is a miniature cover of an identical type but the flange in the rim is very short and the body less globular. Its fabric is a red ware with a dark pink slip on the exterior.

Varient 59C shows that it could well be fitted into the neck of a jar

because of its wide flange. Its fabric is a red ware without any slip and it belongs to the Bahmani period.

The distribution of this type of a jar-cover is limited to the Bahmani period.

Type 60 is a tumbler which occurs sporadically in the Sātavāhana layers. It has a narrow flat base with tapering sides and thick walls. The fabric is identical with the coarse red ware used for Type 67 and 68 and has a number of corrugations produced by the wheel. The Type is somewhat analogous to Type 105 described below. It belongs to the Sātavāhana period. The same shape is repeated in a kaolin covered fragment from Pit II, Layer (7) at a depth of 18 feet B.S., but unfortunately the sherd is too small for getting a complete idea of its shape (For kaolin covered pottery, see p. 60).

Type 61 is a characteristic cup typical for the Sātavāhana period where it occurs in great profusion. It is characterised by the flattish base with tapering sides and bears a soot-stained black slip in the interior and upto a certain portion near the neck, the rest being of a salmon or pinkish red colour. This feature is commonly noticed among the dishes, (type 16 and 18a) large cups, (type 52,89) and several other vessels of the period and may therefore be called a distinguishing feature of the Sātavāhana pottery.[1] Several sherds of this ware, found in the excavation, indicate a great popularity of the shape. Differences in their thickness as well as curvatures etc., show that the vessels were also slightly globular as well as tapering and straight like the present specimen.

Type 62 is another characteristic Sātavāhana bowl. It has a flat base with a prominent carination near the base, with tapering sides above the waist, and the neck is decorated with numerous ribbings. The rim of the vessel is broken. Its fabric is a well levigated dark clay and bears a shining pink slip on the exterior. The portion above the ribbings on the neck is treated with soot as also the interior of the vessel. The shining slip is perhaps salt glazed. The ware has a metallic ring.

Type 63 is a unique rimless bowl with a number of ridges on the neck and sloping sides with a carination in the centre and a globular base. It is a black ware with a distinctive shining slip. It belongs to the Bahmani period.

Type 64 is another vessel, also of the Bahmani period, and shares similar features with Type 63 as regards the decorations on the neck but deviates from it in having a short beaked rim and the basal carination. Its fabric is dull black clay with a greyish slip.

TYPES 65-80 (Fig. 19)

Type 65 is a characteristic vessel with a wide mouth and a very prominent belly and a shallow rounded base. Its portion below the neck

[1] It has now been shown that this was a characteristic of the Megalithic Pottery. But it remains to be ascertained whether it originated with this culture.

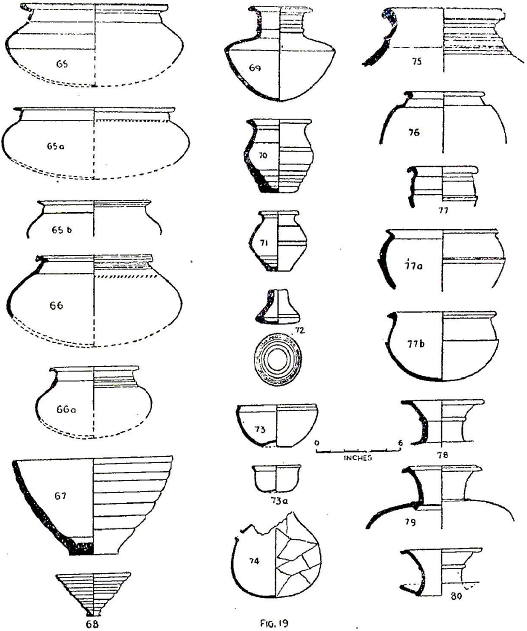


FIG. 19
Pottery Types, 65-80

is invariably decorated with peckings made by a sharp instrument. The rim shows a beaked projection with a curvature at the neck predominantly noticed in varients, 65A and B. The fabric is the usual black clay treated with a dark slip which is occasionally burnished. The type occurs in a fair quantity in the Bahmani layers and is less common in the Late Śātavāhana period. Varient 65B has a heavily sand-laden greyish brown clay treated with a similar slip sprinkled with mica dust. It belongs to the Bahmani period.

Type 66 is another varient of Type 65 characterised by thicker walls and a distinctive sloping profile near the shoulder somewhat similar to Type 64 described above. The rim has a number of groovings with a flange for the lid. It belongs to the Bahmani period. Varient 66A, also of the same period, has a distinctive rope design incised on the rim and is particularly well made.

Type 67 is a characteristic drinking cup with sloping sides and a narrow base. Its body has a number of wheel corrugations and a sunken centre with a depression caused by the potter's fingers. The bases are paired off from the wheel by means of a thread which leaves a focused grooving. The fabric is a very coarse red ware resembling brick and has a crude finish on account of the clayee wash given to it before firing. The type occurs profusely in all the layers. Plate XVII C. 3rd row. The local name for this type is *Ṭhāvakā* and from the hundreds of specimens recovered (complete and fragmentary) it is the most popular type of a drinking cup without any appreciable change of shape in all the periods. The larger size however seems to be less common in the Bahmani period.

Type 69 is an extremely rare vessel recovered from pottery group 3 in Sq. IV. It has an obliquely rounded base almost conical in shape, a very prominent platform above the ridge near the waist with a distinguishing narrow high neck and a flaring out-turned rim with an easy grip. The rim is grooved and a number of corrugations appear on the neck. The edge of the platform is incised with a "Bead and String" pattern running all round. The fabric is a well levigated dark black clay with a similar slip on the exterior but in the interior it is treated with a chocolate slip so commonly noticed in vessels of the Bahmani period recovered at Brahmapuri. The shape does not recur in any of the levels of the preceding two periods. Vessels of this shape are not made now.

Type 70 is a rare *Gaḍu* with a wide mouth and a flaring lip. It has an almost carinated body with a prominent ridge on the waist and tapering sides below and a flat base. A number of wheel corrugations on the lower portion link this type with type 68 described above; and the upper portion which is left plain adds to the beauty of the vessel. The fabric is a coarse reddish clay well burnt with traces of a pinkish slip. The type occurs exclusively in the Śātavāhana period in a fair quantity.

Type 71 is a red ware *Chambu* with a proportionate body and carination on the waist with two deeply incised grooves. It has a narrow mouth and a flat base. The rim has an out-turned lip with a grooving on the

inner side of the vessel. The fabric is a well burnt reddish clay without any slip. When found this *Chambu* contained an amount of rice husk. It belongs to the Late Sātavāhana period.

Type 72 is a unique pottery skin-rubber which has a flattish base with a number of incised concentric grooves. The stem of the holder is very short and the sloping sides afford an easy grip. It is turned on wheel and is hollow inside. The fabric is a brownish clay with a reddish slip which has disintegrated considerably. This unique specimen was found on the floor in the room adjoining the Sātavāhana kitchen.

Type 73 is a rare black bowl with incurved rim with a lip to receive a lid, rounded sides and a distinctive omphaloid base. The fabric is a coarse dark black clay with a similar slip and contains an amount of chopped straw as one of the degraissants. It belongs to the Bahmani period and only two vessels of this shape were recovered from these layers. For a metal proto-type of this bowl belonging to the same period ; (see Plate XXIII. C. left.)

Varient 73A is a unique bowl found on the pavement of the Sātavāhana kitchen in Sq.I and differs from Type 73 in having a pronounced out-turned lip. Its fabric is a well levigated red clay with a pink slip, somewhat similar to but not exactly like the *de-luxe* imported ware described above. (p. 61.)

Type 74 is a rare spouted vessel, globular in shape with a narrow tall neck. The fabric is a coarse reddish clay and its exterior is treated with a number of straw markings all over the surface except its base giving the whole of the vessel a matty surface, which is again treated over with a reddish slip. The interior of the vessel is black and subjected to inverted firing. The walls are comparatively thinner for the size of the vessel. The spout on the shoulder does not appear to have been made separately as in the case of numerous spouted vessels to the Sātavāhana and Bahmani periods. The present specimen belongs to the Bahmani period.

Type 75 is a commonly noticed neck of a large storage jar. It is of a well burnt red clay with a black streak seen in the section. It bears a reddish slip and is painted with a bright red colour with a lustrous finish. Comparatively fewer specimens of complete vessels belonging to this type have been found in the excavation and the exact shape of the lower portion of this type is not known. It belongs to the Bahmani period.

Type 76 is a upper portion of a large jar with a short rim, a ridged shoulder and a bulging heavy body. The fabric is the usual black clay and bears a bright lustrous polished slip on the exterior. The type occurs only sporadically in layers of the Late Sātavāhana and Sātavāhana period.

Type 77 as well as its sub-types have a prominent secondary ridge on the shoulder with a rounded base. Their fabric is generally a coarse black clay with a dark polished slip and is confined mostly to layers of the Late Sātavāhana period. Type 77 has a broad rim with an incurved grooving and a hook-like profile. A number of corrugations appear on the neck and on the broad band between the neck and the shoulder. Its fabric is a very

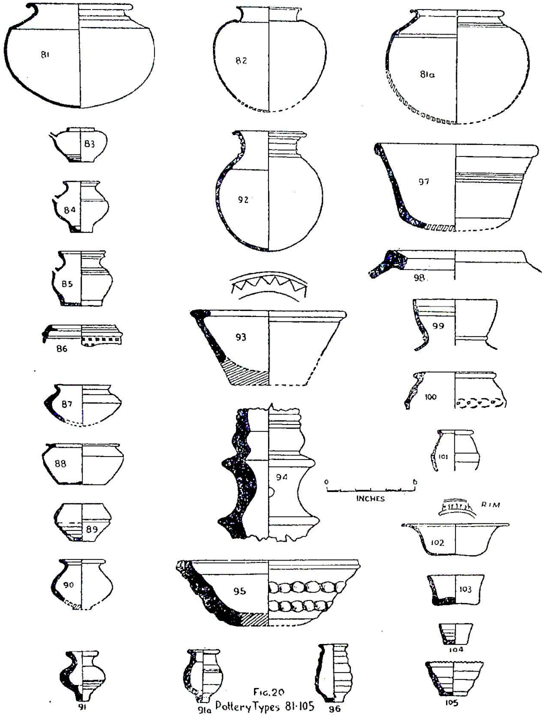


Fig. 20
Pottery Types 81-105

coarse greyish pottery with a characteristic chocolate slip on the exterior. Varient 77A has considerably thicker walls and a stunted rim. Its ridge on the waist is applied and flakes off in places where several patinated layers occur showing that the thickening of the vessel near the ridge was an after-thought and additional clay was put over the basal portion after the pot was sun-dried. The fabric is a coarse black clay and the broad band between the neck and the ridge bears traces of a disintegrating lustrous black slip. Varient 77B shows a complete vessel with a prominent beaked rim and thinner walls near the shoulders. The vessel is bottom-heavy. It is very common in all the Late Śātavāhana layers.

Type 78 is a flaring rim of a large pot, with a distinctive ribbing on the neck. The fabric is a very well levigated clay containing an amount of lime and bears a pinkish red slip, which is again painted over with a yellowish red colour. It belongs to the Late Śātavāhana period and occurs in great profusion.

Type 79 also belonging to the Late Śātavāhana period shares the main characteristics of the neck described in the previous type but deviates from it in having a prominent flange about its out-turned rim. The vessel has high shoulders and the large size of the pot perhaps necessitated the neck and the body to be made in two separate parts joined afterwards before firing.

Type 80 has a neck similar to Type 78 but has a sunken profile for the globular body which was perhaps pear-shaped. The fabric is a red clay with traces of pinkish red paint.

Types 81-105 (Fig. 20)

Type 81 represents a common black ware vessel used for cooking and is characterised by the large bulbous body with a distinctive carination on the shoulders and a number of ribbings on the portion between the neck and the carination. It has a slightly out-turned rim with a suitable grip. The fabric is a black clay containing an amount of lime and sand, and very often bears a shining black slip. The type is mostly confined to Śātavāhana layers but occurs sporadically in the Late Śātavāhana layers also.

Varient 81A differs slightly from the arch type in having thicker walls and a characteristic ribbing in the interior. It occurs in great profusion in the Śātavāhana layers only.

Type 82 is a unique vessel having a pear-shaped body and a sunken profile near the neck with a slightly out-turned rim. The walls of this vessel are extremely thin and have a gritty appearance on the exterior. The fabric is a coarse creamy red pottery with considerable amount of sand in it. It is unslipped. The type belongs to the Late Śātavāhana period and does not occur frequently.

Type 83 (Plate XVI, 5th row 2) is a characteristic spouted vessel with a sharply incurved body and a narrow flat base. It has a number of corrugations produced by the wheel and the base was separated from the wheel by means of a thread as indicated by a number of spiral groovings in a

focused centre. The spout is separately made and attached to the shoulder before firing, a stick being inserted in the hole to ensure the cavity in the tube. Its fabric is a coarse gritty clay with a reddish slip on the exterior. The vertical struts of the neck indicate the probability of the use of a lid for this type. The type occurs only sporadically in the Śātavāhana layers.

Type 84 (Plate XVI 5th row 3) is a solitary specimen from the Bahmani layers and is probably derived from type 71 from the Late Śātavāhana levels noted earlier. It has a well proportioned body and a flaring rim. The base has the usual marks of focused grooving. The spout is obliquely placed on the belly and not on the shoulder as in type 83. Its fabric is dull red pottery without any traces of slip.

Type 85 also from the Bahmani layers is characterised by a broad base with a bulbous body and a large flanged rim. The portion of the base seems to have been made separately and the spout placed obliquely on the shoulder. The fabric is the usual red ware with a bright pink slip on the exterior, and on the portion up to the neck in the interior.

Type 86 is a unique piece forming the rim of a cut-ware vessel[1] or bowl. It has a flat sunken rim with an inward flange and a beaded band near the neck. The lower register of the belly is decorated with small squares cut at alternate intervals giving it the appearance of grids or lattice work. The fabric is a coarse red ware with a dark slip occurring on the upper register while the lower register is left unslipped. Unfortunately only two sherds of this ware were found which are insufficient to give any idea of the shape of the complete vessel. Found in mixed deposits in Pit II and unstratified.

Type 87 is a miniature bowl with a prominently carinated body with thick walls and a small flaring rim. The fabric is a red ware without any slip. It belongs to the Late Śātavāhana period and occurs only sporadically.

Type 88 is a rare flat bottomed bowl having a broad rim with flange and a distinct carination at the waist. The fabric is the common red ware resembling brick and has a clayee slip on the exterior. It belongs to the Śātavāhana period.

Type 89 (Plate XVII C. 3rd row 2) is a characteristic rimless bowl with bulbous profile and distinctive groove at the waist. The type occurs in a great abundance in the Śātavāhana layers. Sometimes the fabric is of a very coarse type but among the finer vessels the interior is subjected to an inverted firing and often painted black up to the waist. Their bases often bear marks of focused groovings.

Type 90 is a rare *chambu*-shaped miniature pot with a prominent carination on the belly and a small flaring rim with lips. It has a ring base. The fabric is a common red ware with an amount of straw in it.

Type 91 is a miniature vessel of uncertain use, characterised by a

[1] Cut-ware vessels have a very remote antiquity in India being found at Mohenjo Daro (cf. Mackay, *F.E.M.*, Plate LXVII, 7-11).

knoblike base, a sharply incurved body with a narrow neck and an out-turned rim. In its inverted form it would resemble a pinnacle but does not seem to be likely from the crudely finished bases. Without a stand these vessels would not support themselves. The fabric is always a gritty red ware resembling brick and a clayee wash is invariably given to these before firing. The type is confined to the Sātavāhana levels only and occurs in great profusion. Varient 91A differs from the arch-type in having a broader neck and an elongated body. It is therefore midway between type 96 and 91. Several vessels, apparently discards, found in the excavation indicate their extensive use. Earlier excavations by Prof. Kundangar in 1945 have yielded numerous vessels of this type and are now preserved in the Kolhapur Museum.

Type 92 is a water-vessel with a spherical body, a short neck decorated with a number of corrugations and a pronounced out-turned rim. The fabric is an extremely coarse red clay having lime in it. The type occurs very sporadically in the Late Śātavāhana layers.

Type 93 is a rare basin with sloping sides and a flat beaked rim, decorated with an incised zigzag pattern running all round. The fabric is the common red ware with a gritty texture, well burnt and bears a pinkish bright slip on the exterior. It is rotated on a fast wheel and shows a number of corrugations. The shape is not of frequent occurrence at Brahmapuri. It belongs to the Late Sātavāhana period.

Type 94 is a solitary fragment of a finial[1] with numerous flanges, and several tiers. It has a very large hole in the lowermost flange which probably was intended for inserting some flag-like object or perhaps for keeping the finial in position on a house-top. Several finials of this description were unearthed in the previous excavations at the site, some without any hole in their flanges. The fabric of all these specimens is a very rough coarse clay resembling brick and does not bear any slip. These finials are usually associated with the lower-most layers of the Sātavāhana period.

Type 95 is a rare fragment of a basin with thick walls and sloping sides and a sagger flat base. In the lower register of the fragment two

1 Terracotta finials are fairly common to other sites in India and they have a very wide range in the variety of their shapes. Specimens from Bhita, (*ASI.AR.*,) 1911-12 Plate XXIX, 23, 48, Plate XXX, 69, 92, Kasia *Ibid*, Plate LXVI, Fig. 10, 7th specimen from right in the bottom row, Ramatirtham, (*Ibid*, 1909-10, Plate XLIV, 6, 16, 25, 29, 30 and Plate XLV, 4) are dated to a period between the Kushana and the Gupta age (200-A.D. 500) while at Arikamedu these finials (Type 146) are associated with the pre-Arretine and Arretine layers. Excavations at Kondapur in the Hyderabad State have yielded similar finials belonging to the Śātavāhana period, several of which are preserved in the site-museum. These finials are also commonly found at Ujjain in Central India; *Annual Report, Arch. Dept., Gwalior*. 1938-39, Plate XXI (*a*); and *Vikrama-Smriti-Grantha*, (Plate opposite p. 688); at Rairh (PURI, *Excavations at Rairh*, Plate VII, 46) No. 443, and SAMBHAR (SAHNI, *Excavations at Sambhar*, Plate XIII, g) in the Jaipur State. Pottery finials thus show a very wide distribution throughout the Indian Peninsula, about 200-A.D. 500.

broad bands of clay have been pressed with a cotton cloth thus forming a series of lozenges in relief. The band is a good example of applique work which is noticed only occasionally in the Brahmapuri finds. The fabric of this fragment is a coarse red clay without any slip and it is partially painted with bright red. The interior of the vessel is very roughly finished. Unstratified.

Type 96 is represented by two unique holders (Nos. 3624 and 4056) of coarse red ware characterised by an out-turned rim, a narrow neck, elliptical globular corrugated body and a flat base. The type is confined to the Sātavāhana layers. Previous excavations at the site have yielded numerous vessels of this type, which are said to have been found in the lowermost strata of the excavations.

Type 97 is a rarer form of a basin having a sagger base and a tapering profile, with walls of considerable thickness and a clubbed rim. It is the common red ware of coarse gritty clay resembling brick and belongs to the Late Sātavāhana period.

Type 98 is the rim of a large storage jar which has hardly any neck at all. The mouth of the jar is very wide and the sides are considerably thick with an inward projection for affording an easy grip. It has a prominent ridge below the mouth where it meets the tapering sides. It is a common red ware resembling brick and belongs to the Late Śātavāhana period where it occurs sporadically.

Type 99 is a rare cup-shaped rim of a large vessel. It has a small incurved body with a distinctive rib on the neck. The shape of the lower portion of the vessel is not known. Crude pottery with a greyish slip. Unstratified layers in Pit II.

Type 100 is a fragment of a vessel with a beaked rim and sloping sides, decorated with an applied band of small lozenges in low relief. Gritty and red clay with straw. Red slip on the exterior and inside the neck. The type occurs in large numbers in the Late Śātavāhana period and continues in the Bahmani period where it occurs sporadically.

Type 101 is a unique fragment of a bowl with a prominent band at its waist decorated with a stamped design consisting of leaves arranged in a herring-bone pattern. The fabric is a very well levigated clay well burnt with a deep brown slip which very nearly resembles the imported ware described above. Stamped decorations are comparatively very few in the Brahmapuri excavations. This fragment has been assigned to the Śātavāhana period.

Type 102 is another bowl of red ware, with a flaring rim, tapering sides and a flat base. The rim is decorated with a floral design superimposed upon a cross with vertical lines at intervals. The pattern on the band is in low relief and probably was drawn before firing. A clayee wash was given to it before firing. The fabric is a very coarse and gritty clay without any slip. It belongs to the Late Śātavāhana period.

Type 103 is a small bowl-like vessel which could be used as a stand for pottery vessels. It is shallow with a thick base, sloping sides and

a wide mouth without any rim. The fabric is generally coarse black clay without a slip. The type is mostly confined to the Bahmani period.

Type 104 is a miniature cup with tapering sides and a flat base. Its fabric is a dark coloured clay containing straw and bears a dark black slip. It belongs to the Bahmani period where it occurs in small quantities.

Type 105 is a fragment of a large cup with tapering sides and a small flat base. It has distinguishing corrugation marks on the exterior as well as in the interior of the vessel. Its fabric is coarse clay containing an amount of sand and bears a brick-red coloured slip. This ware is restricted to the Late Sātavāhana period only where it occurs in a large quantity.

Passing reference may here be made to certain very thin sherds, polished either black or brown found, in the deepest levels of the excavation and overlying the rock. These were also associated with a thick ware having a rough matty surface. As all these were very small in size, it was difficult to form any idea about the shapes of the vessels of which they formed a part. Their position immediately above the rock and below the Sātavāhana layers indicate that they probably belong to the Pre-Sātavāhana period, but the soundings in these deeper levels were not sufficiently extensive to conclude about their commonness or otherwise.

Jar Knobs (Fig. 21)

Much of the pottery from the lowermost levels of the excavations had covers with knob handles. A very wide range in the variety of their shapes is noticed, from plain simple utility handles to a very refined type with decorative motives.

Type 1 is the simplest form of a handle with two projecting sides and a slightly curved top. The sides are generally round in section but occasionally a number of facets have been noticed on a few. The pans to which these handles are attached, are in almost every case destroyed and their forms therefore cannot be ascertained. The fabric of these handles is a very well lavigated clay with a pinkish wash and occasionally with a bright red slip. This type is confined to the Sātavāhana layers only, and is not noticed in the layers of the subsequent phases. Varient 1A is a handle of a miniature jar and has a vertical hole running through the centre. It bears a bright red slip.

Type 2 is another varient or a sub-type Type 1 and has two horn-like projections with an incurved top. The fabric is the same as Type 1 with a reddish slip. It mostly occurs in the Sātavāhana layers.

Type 3 is a solitary specimen with four prongs and a flat surface at the top and a prominent tapering profile for the pan below the handle. It also belongs to the Sātavāhana period.

Type 4 is a characteristic pottery knob, solid, and made by pinching an amount of clay left over a wheel-turned lid. This is indicated by the twisting at the base in the interior of the lid. It is of a very

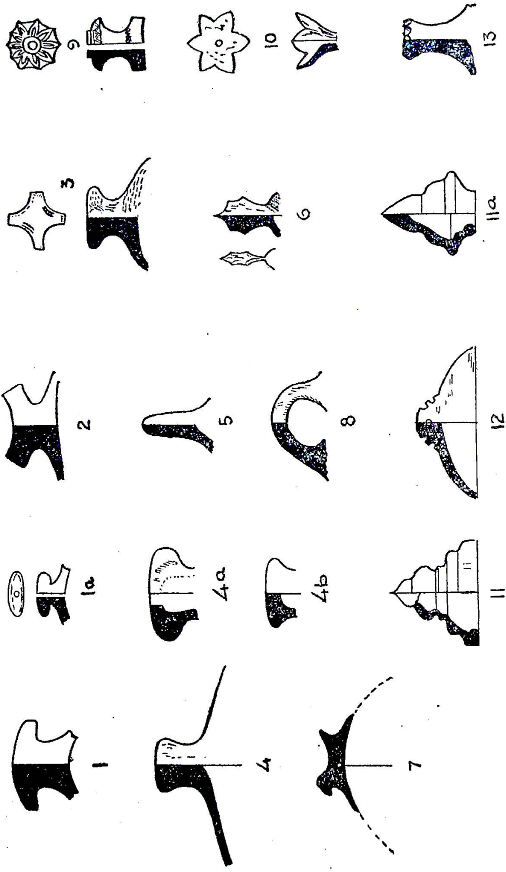


Fig. 21
JAR KNOBS

common occurrence in the lowermost levels associated with the Sātavāhana period. A large number of these knobs indicate the extensive use of the type. The fabric is a coarse red clay generally with a bright red slip. Varient 4A has an identical shape as the holder in Type 4 but differs from it in having a scooped hollow interior. From the vertical sides below the knob it is likely that it was used as stopper for bottles with narrow necks. The fabric is a coarse red pottery with an amount of sand and bears no slip. The type occurs in both the Sātavāhana and the Late Sātavāhana periods in great profusion and seems to have continued in the Bahmani period also. Varient 4B is a unique specimen with a tapering end and sloping sides. It is of a coarse red pottery with a pinkish slip. It belongs to the mixed layers in Pit I and probably belongs to the Late Sātavāhana period.

Type 5 is slender projection which probably served as a jar-knob. Its fabric is a coarse light clay without any slip and belongs to the Late Sātavāhana period.

Type 6 is another solitary specimen with a flat roughly pentagular holder with a concave base. It was probably used as stopper for a bottle. The fabric is a coarse dark red clay with a red wash. It belongs to the Sātavāhana period.

Type 7 is a fragment of a jar-cover decorated with the figure of a bird at its top. This bird which was "Applied" to the cover was separately made and has a small hole beneath it, probably for passing a string through. It is made of a coarse red pottery without any slip and seems to have been subjected to covered firing for fixing the bird properly, indicated by the dark stains covering the bird and the area around it. This specimen is datable to the Bahmani period.

Type 8 is a rare handle of a jar-cover shaped like an oval ring and is separated from the lower pan to which it was formerly attached. It is of a coarse light red pottery without any slip. Handles of this type are extremely rare in the Bahmani period.

Type 9 is another rare specimen of a holder with a flat top and concave sides. It has a prominent ring in the centre in very high relief around a hole which runs through. On the span below the ring appear ten petals of a lotus flower in low relief. The holder is cut by a sharp instrument with concave sides to meet the ends of the petals which enhance their beauty. It is of a coarse well-burnt black pottery which has been painted over with a crimson or dark red slip. This specimen belongs to the Bahmani period.

Type 10 is an extremely rare holder of a jar-cover arranged in the form of a six petalled flower with a beautiful finish. It is of a well levigated clay with a yellowish slip and is very well made. It belongs to the Late Sātavāhana period.

Type 11 is a typical pinnacle shaped cover with several tiers and was probably used as a jar-cover. The pottery is a rough black ware with a dark black slip which is burnished. It belongs to the Bahmani period.

Varient 11A is apparently a part of a similar pinnacle of coarse pottery without any slip. This type is confined to the Bahmani layers only.

Type 12 is another jar-cover which has its lower pan fragmentarily preserved. The top of this pan is pinched and has two serrated marks on either side of it. It has a small hole in the centre for the passing of a string. It is made of a well levigated clay with a uniform slip of a yellowish red colour on the exterior, while the interior has black marks on it, near the rims of the pan showing that it was used for covering a cooking pot. This specimen has been assigned to the Bahmani period.

Type 13 is a protruding knob almost similar to Type 3 with a number of depressions at the upper edge of the flat top. This specimen was found in the Sātavāhana layers and its fabric is the same as Type 3 described above.

NECKS (Fig. 22)

Besides knobs, quite an interesting variety of high cylindrical necks were found in the excavations. These have been mostly recovered in fragments since they break near the joints where they were attached to the vessels. A normal feature of the characteristic neck of the Sātavāhana period is the flat top with flaring sides, slightly concave at the central portion and a tapering from near the base. The height normally varies from 3 to 4 inches, but shorter necks have been found. The slenderness affords an easy grip and the concave portion helps it. The fabric of these necks is a very fine, well levigated clay, resembling the imported ware discussed above. But sometimes they are crude. A few distinguishing types have been illustrated in Fig. 22. In one case (No. 4) the neck has a depressed top with a tapering nozzle.[1] The fabric is the same as the other specimens and the distinctive red slip used for it has flaked considerably. The hole in some of these necks was extremely small and it is reasonable to suppose that in such cases their componant vessels must be spouted. In fact a very large number of spouts have been recovered throughout the area excavated. In some cases (No. 5) the difficulty of pouring liquids through these narrow necked pots has been obviated by inserting an additional hole against its belly[2]. No. 7 is a long vertical neck (spout?) closely similar to the Roman vessel (Plate XIX. A.) described above. Types 8–14 show the various types of necks and spouts confined to the Bahmani layers. No. 13 and 13a is the fragment of a curious jug shaped vessel found in the unstratified areas in Pit II and has no other parallel in the area excavated.

[1] Similar high necks with nozzles, found in Hastinapur, by the Archaeological survey of India, in 1951, belong to the Muslim Period.

[2] This ingenious arrangement of boring a hole adjacent to the belly for the easy pouring of liquids is also noticed at Sahet Mahet. *ASI.AR.*, 1910–11, Plate III, 8.

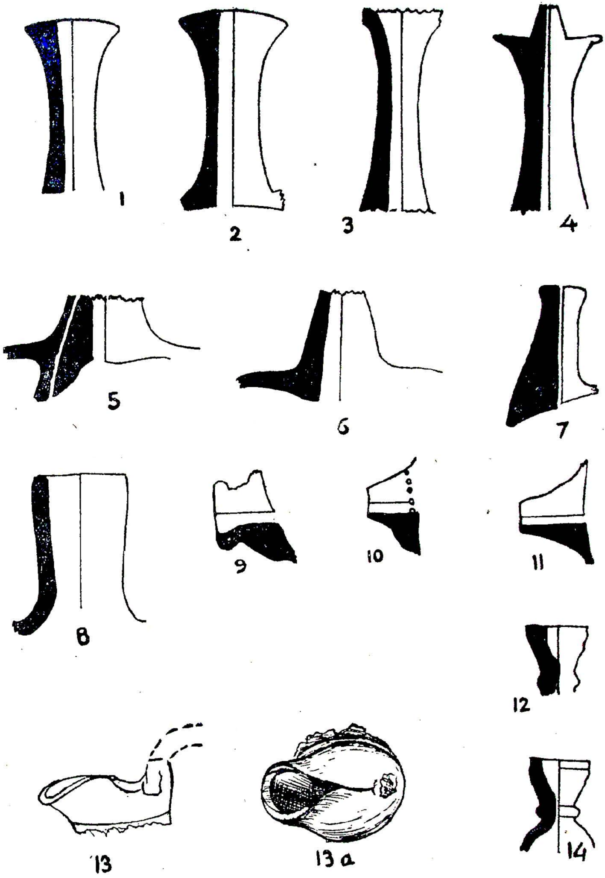


FIG. 22 POTTERY (NECK SPOUTS)

(iii) FIGURINES

(a) TERRACOTTA FIGURINES FROM MOUND II

A few terracotta figurines of men, women, birds and animals were found from the Sātavāhana and immediately preceding (post-Sātavāhana) layers.

Human figurines of the Sātavāhana period were prepared in a double mould. All these show a fine sense of modelling and certain characteristic features.

No. 4201. (Plate XXI. A.B.)

Female Figurine (Mother Goddess?)[1] height 4½ in. width 2 in. thickness 1½ in. terracotta, made in two halves, originally bright red, but now has yellowish patches.

Woman seated or standing in a rather unusual pose, with short stunted legs spread apart. She has two hands: the right, bent and resting against the body, clasps an indistinct object having a ribbed lower portion and sheaf-like upper portion (cornucopia ?), the left rests on the knee, and has a leaf (on the end of a knotted scarf), over the wrist. Her hair well combed and arranged after a certain fashion; some are tied up in a roll high over the head, while the rest fall loose over the back. She wears at least two necklaces. The top one is tight fitting and is indistinct, and has a central gem as in a *Maṅgala-sūtra* (one of Hindu married woman's auspicious symbols). The other is round and perhaps made of disc-like beads in two parallel rows, with a pendant collared bead (of glass ?) having criss-cross pattern on it and (gold ?) leaves on either side. A scarf, decorated with criss-cross pattern, passes over her left shoulder and breast and across the back. Two similar strips are seen round the upper arms. A girdle of two strings of rounded beads hangs around her waist. Below this she appears to be totally nude, as the pudenda is shown very clearly, but this may not be so. The dress may be extremely thin because on the back, below the junction of the scarf and tapering mass of hair, two thin lines are seen on either side of the base of the spinal column, passing underneath the girdle. These might be of a thin lower garment. Br.II, Pit I, Layer 6 (of dark yellowish soil) by the side of the room. c. A.D. 200.

No. 2573. (Plates D. XXI and XXII. B.)

Head and part of torso of a male terracotta figurine (neck missing). Height of head 2 in. of torso 3½ in. width of head 1¾ in. of torso 3¼ in. thickness of head 2 in. of torso 2 in.

[1] Almost identical figurines have been found in the Sātavāhana layers at Nasik (1950–51) and Saugor (1952).

Head. The face is broad, slightly rounded at the chin, eyes long and deeply incised with a prominent ridge, the nose perhaps broken off at the root and tip, leaving a small round spot in the middle, very thick lower lip, slightly projecting. The head is covered by a low, flat head-dress (*Pāghoṭe* ready-made dress of folded cloth as opposed to '*Pheñṭā*' which is always tied every time afresh) which comes right over the forehead, slightly projects sideways at the top, and has a round uncovered part (?) of the head behind or has a round patch of thin cloth (this is at times of gold or silk) on the head. There are long ear-rings with round pendants in each ear.

Torso. From the lower part of the chest down to stump of the legs, which are shown stunted and spread apart. The abdomen, and the hollow of the waist in front and back respectively are well-modelled. A thick but narrow scarf (*paṭṭā*) goes over the left shoulder and falls across the back on the right side. A loin-cloth, consisting of a thick, narrow band tied round the waist, but below the navel. The thighs are also well modelled. There are traces of white paint over the face and head. Made in two casts. Pit II. 20 ft. layer 6. Śātavāhana.

No. 2856. (Plate XXII. C. left.)

Hand holding a cylindrical object (drum). $1\frac{5}{8}$ in. long, diameter of the drum 1 in. cream coloured (baked) kaolin (?). The hand has two or three slightly incised horizontal lines, probably indicative of the bangles (?). Ex. II, layer 8, 22 ft. 6 in.

No. 2856 **A.** (Plate XXI. C.)

Torso of a terracotta male figurine $3\frac{1}{8}$ in. $\times$ $3\frac{7}{8}$ in. $\times$ $\frac{7}{8}$ in. Front half only, of a male shown seated with stunted legs, bent and spread apart. It has two arms: the right arm is bent at the elbow, and the hand facing full front holds an object which is indistinct. The left arm is bent and rests against the chest and supports a parrot with the palm of the hand. The figure wears simple round wristlets on both the hands and a girdle below the navel. It was originally perhaps coated with a thin white paint, traces of which still remain. The figure was made in two halves. The inner side is not well baked and shows a blackish core. Ex. II, 22 ft. layer 8. Śātavāhana.

No. Terracotta figurine. $1\frac{5}{6}$ in. $\times$ $1\frac{7}{16}$ in. $\times$ $\frac{1}{2}$ in. female (?), round head, protruding nose tip, only the right eye shown by a long oval incision, arm stumps only remain, legs broken. No signs of breast or other sex organ. Ex. IV, 13ft. 9 in. layer 6. c. A.D. 400 (Not illustrated.)

(b) FIGURINES FROM MOUND I

BR I, 176. (Plate XXII. C. right.)

Black terracotta female figurine. $1\frac{3}{4}$ in. high, $1\frac{1}{4}$ in. broad and $\frac{1}{2}$ in. thick. Crude, hand-made, having pinched nose, round hollow eyes, small outstretched arms, the left broken, small, undeveloped breasts, stumpy arched legs.

BR I, 177. (Not illustrated.)

Black terracotta figurine, female (?) $1\frac{3}{8}$ in. high, $\frac{1}{2}$ in. broad, $\frac{1}{4}$ in. thick. Very crude, hand-made having a pinched nose, brought forward and turned slightly to the right. This feature with a tiny pip in the hollow (of the eye) gives it the appearance of an elephant head. The arms are stretched sideways, of which only the left remains, the right is broken; pot-bellied lower portion, and the legs shown by an arch.

BR I, 172. (Not illustrated.)

This is similar to the one described above, but its head part is broken. Only the round body and short outstretched legs remain.

BR I, 176A. (Plate XXII. A.)

Terracotta female figurine. $2\frac{1}{2}$ in. high, $1\frac{5}{8}$ in. broad, $\frac{7}{8}$ in. thick. Only the upper half remains. Reddish, with traces of white coating. The figurine has a long oval face, with a head-dress (?) having three small projections, eyes long but shallow and filled with paint, the nose straight but not sharp. She wears long ear-rings with round pendants. There are two horizontal red bands across the front of the neck, and three on the upper part of the arm. The figure is not made in the round but cast in half relief, hence flat on the back. MD I, Ex. I-I'a, 10 ft.

(c) STONE FIGURINES

No. 4200. (Not illustrated) Mound II. Sātavāhana.

Tiny lapislazuli figurine, about 1 in. long, $\frac{1}{2}$ in. wide and $\frac{1}{4}$ in. thick, sky blue colour. The nose, the forehead and the sitting posture (cross legged?) and folds of dress indicated by fairly deep incisions.

The pose and the incised lines showing the forehead, the head-dress (?), the nose, the neck and the folds of the body and legs partly crossed indicate a seated male figure. On either side of the head, near the ears is a hole for suspension. The back side has also a few incisions.

(d) METAL FIGURINES

No. 3278. (Plate XXIII. A.)

Seated goddess (Pārvatī) on silver plaque. $1\frac{1}{2}$ in. × $1\frac{1}{2}$ in. The plaque is encased in a thin copper sheet, which covers it completely on the back, while in the front it is protected by $\frac{1}{8}$ in. border. The plaque was in good condition, the silver practically not tarnished at all. The case is rusted green, but it is still in a good condition.

The goddess is seated, probably in *padmāsana*, with the lower half of the body covered below the navel by a dress which falls in fan-shaped form over the *āsana*. This has four legs, but only the two in front are visible. A diamond-shaped design decorates its front. She seems to have two arms only, one on the right holds a dagger-like object, and the other a *triśula*. She wears a high tiara of leaves, long ear-rings with round

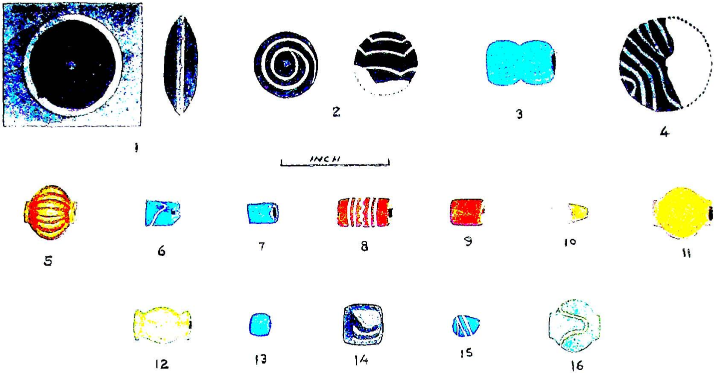


PLATE XXXVII: BEADS IN COLOURS *(facing page 87)*

pendants, one or two necklaces and a long garland which falls in a loop over the navel, while its two strings go over the shoulder and seem to hang down on either side of the seat, and possibly a *sarpavalaya* round each wrist. On the right hand top corner is the sun, shown by a circle, on the left the moon shown by a crescent. MD II, Pit II, 26ft. layer 9.

Were the plaque derived from this layer, it should indeed be very old, going back to the Sātavāhana period, and hence very important for the history of early Hindu iconography. Unfortunately it was uncertain if the plaque had come from the layer in which the digging was done or whether it had fallen down from above.

Looking to the condition of the plaque, and the fact that such plaques are current even now, it seems to be late, probably of the 13th century (or modern!). However, it should be noted that the goddess has two arms only. This is a feature of early Hindu iconography, but rare later, when multiplicity of hands was a rule.

(iv) BEADS

Beads constitute a very large portion among the excavated finds at Brahmapuri and the time-span over which they are distributed makes it an interesting study for the history of bead making on the site. More than 1,000 beads have been found and the materials used for these beads are as follows:

Carnelian 39, Garnet 8, Agate 6, Amethyst 4, Crystal 15, Lapis Lazuli 6, Green Jasper 2, Chalcedony 5, Faience 42, Steatite 2, Shell 3, Gold 2, Terracotta 328, Glass 694, Seed beads 20, and Miscellanious 20.

Carnelian beads: (Fig. 30: 1-12)

This stone seems to be very popular and has been distributed in all the three periods. Out of 39 beads only four are etched. In these two types of decorations are noticed. In Type I, the decoration consists of white lines etched on the original red surface of the carnelian and in Type II the whole of the red bead is covered with a thin film of white by a chemical process, over which black lines are drawn.

Beads of Type I

No. 2372. Carnelian cylindrical barrel etched with two zonal bands and a zigzag in the centre.[1]

No. 2494. Carnelian barrel bead similar to above, larger in size and fragmentarily preserved.[2]

Both these beads are attributed to the Sātavāhana period and similar decorated beads have been found on the site in the previous excavations and are now preserved in the Kolhapur Museum.

[1] Plate XXIV A, 7; Fig. 30: 9;

[2] Plate XXIV A, 9;

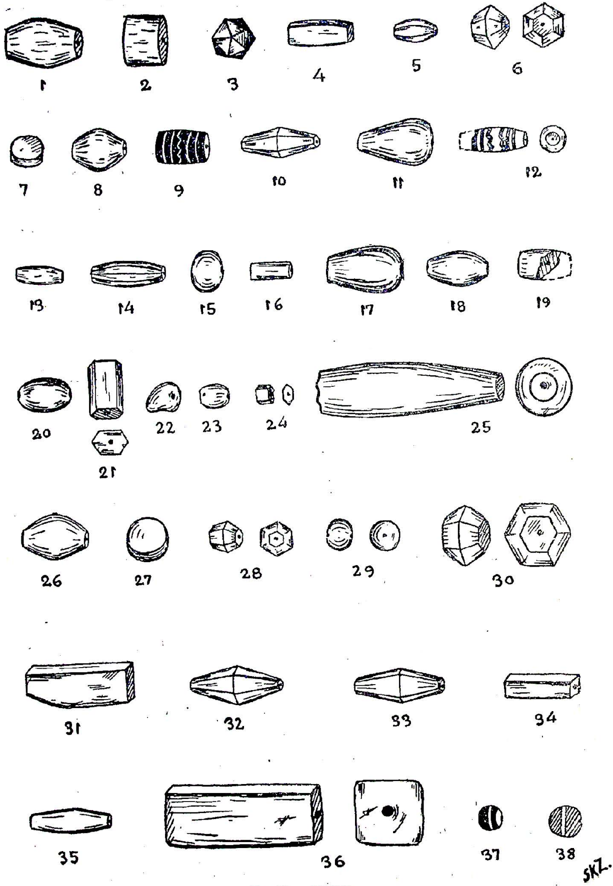

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FIG. 30. BEADS

Type II

No. 185. Etched carnelian barrel bead, decorated with two zonal bands and zigzag lines in the centre. The surface is covered white all over and the lines etched in black.[1] Found in layer (3) and attributable to the Bahmani period, but attrition marks at its edges indicate that the bead was an ancient one and put to use at a later period.

No. 2763. Spherical carnelian bead covered white all over. Decorated with oblique Dot-and-Dash pattern along the vertical axis of the bead.[2] Sātavāhana period.

Among the plain undecorated carnelian types at Kolhapur, there are 13 spherical beads. All these were recovered from the Bahmani layers, save one (No. 4276) from the Sātavāhana level. Barrel shaped beads are common to both the Sātavāhana and Bahmani layers. Hexagonal barrels seem to be preferred in the Bahmani period, as four out of a total of five beads emanate from these layers but is in no way an indication with certainty as the lower levels of the site were not extensively explored. Three hexagonal bi-cone beads restrict themselves to the Sātavāhana layers; while cylinders and truncated bi-cones, are well distributed in all the levels.

Among the beads found in the Bahmani layers mention may be made of a tablet bead (No. 1283)[3], a form also repeated in other materials like crystal and shell; as also a broken carnelian ring (No. 1812).

Amongst the beads from the Sātavāhana layers, one twisted pentagonal bead with facets (No. 842),[4] a square cylinder bead (No. 2584)[5] and a drop pendant (No. 4245)[6] are noteworthy. An exact replica of the drop pendant in amethyst was found on the site (No. 660)[7] in Bahmani layers.

Square cylinder beads seem to be more common in the lowest levels and the shape is repeated in materials like glass, lapis lazuli, terracotta and shell.

Beads of the Sātavāhana period show a tendency towards faceted forms, while those of the Bahmani layers are generally plainer.

Garnet Beads (Fig. 30: 21-24)

Eight garnet beads have been found. All these are of a pigeon-blood colour and show good workmanship. Each of the bead is bored from two ends. From the view point of their shapes only two beads are noteworthy.

No. 128[8] is a hexagonal cylinder with two flat sides. It was recovered a few inches below surface on the western slope of the mound in Pit I and is the largest garnet bead found in the excavations.

1 Plate XXIV A, 8; Fig. 30: 12; Dikshit, *Etched Beads in India*, Pl. III, 15.

2 Dikshit, *Etched Beads in India*, Plate III, 14.

3 Fig. 30: 7. 4 Fig. 30: 3. 5 Fig. 30: 4. 6 Fig. 30: 11. 7 Fig. 30: 17.

8 Fig. 30. 21.

No. 1806[1] is another flattened hexagonal cylinder bead, having its two sides larger than the rest. It is similar to No. 128 above, but extremely tiny. It would appear that the holes in it were drilled first and then the bead ground to its requisite shape.

All the other beads of garnet are made by grinding the nodules from their amygdoloid state and by boring holes through them. The fine polish which some of them bear show taste in their selection. All the garnet beads from Kolhapur belong to the Bahmani period and none to the Sātavāhana levels.

Agate Beads

The total number of agate beads found is 6; two of them are banded. The shapes are the usual spheroids and barrels and are well distributed in all the layers. Only two beads are noteworthy. No. 3025 is a flattened barrel of banded agate belonging to the Late Sātavāhana period and is extremely well polished. No. 3104 (Fig. 30: 25) is a long barrel bead 2 inches in length and is the largest specimen found at Kolhapur. One end of this bead is fore-shortened probably due to accidental breakage and appears to have been re-used by grinding it. Probably the bead was an ancient one and valued and therefore re-used at a subsequent date. It was recovered from the Late Sātavāhana levels but may have belonged to an earlier date. Banded agate beads No. 813 and 3184 have been made in such a way as to have a white natural band in the centre. Both of them bear a very high polish and belong to the Bahmani period.

Amethyst Beads (Fig. 30: 17-20)

Amethyst is very poorly represented by four beads occurring in all the levels at the site. The quartz containing purple manganese veins used for these beads is well selected and shows superior workmanship.

No. 660 (Fig. 30: 17) is a drop-pendant of a very dark purple colour and was found at a depth of 7 ft. 4 in. in Sq. IV and has been assigned to the Bahmani period.

Beads 1333, 2001 and 2445 (Fig. 30: 18-20) are parts of barrel shaped beads.

Crystal Beads (Plate XXIV. B.)

Fifteen crystal beads of various shapes have been found at Kolhapur. The stone used for making these beads is generally very inferior in quality, there being only 5 specimens of pure transparent variety. Large number of nodules found in the excavations indicates that these beads were manufactured locally. Beads of the spherical shape, 5 in number, are mostly confined to the Bahmani layers; while the Sātavāhana layers have yielded

[1] Fig. 30: 24.

four truncated hexagonal bi-cone beads. This again indicates the general preference for facetted beads in the Sātavāhana period in respect of stone beads. Noteworthy among the other shapes are two tablet beads from the Bahmani and Sātavāhana layers, one barrel shaped bead assigned to the Sātavāhana period, a twisted hexagonal bead (No. 2830) also of the Sātavāhana period; and a rare hexagonal flat barrel occurring in the Bahmani layers.

Lapis Lazuli Beads

Lapis lazuli is a material which is not indigenous to India but has been imported in this country from very remote times, beads of this material being found at Mohenjo Daro and Harappa. The stone used for the lapis lazuli beads is of a very inferior quality and presents a mottled bluish grey appearance with specks of blue in them. Only one bead (No. 4222) has a uniform deep blue colour and is elegently finished.

Only six lapis lazuli beads have been found in the Brahmapuri excavations. The following shapes are represented. Hexagonal bi-cones, square cylinders and barrels. Two beads of each shape are noticed. The hexagonal bi-cone beads are mostly confined to the Bahmani layers, while two barrel-shaped beads emanate from the Sātavāhana strata. Square cylinders show that they were common both in the Sātavāhana and Late Sātavāhana periods.

The excavations have also yielded a fine lapis lazuli pendant (No. 4200) shaped like a human figure in a seated posture with its hands upraised. It is prepared out of a fine mottled stone and the limbs fashioned by sawing with a sharp instrument, particularly to be noticed in the carving of the nose. It is about ½ in. in height and is assigned to the Sātavāhana period.

Green Jasper

Only two beads of green jasper have been recorded.

No. 2870 recovered from Sq. I. in layer (6) is a short square barrel, a shape which is common in beads of the Sātavāhana period. The present specimen is broken but the extant portion bears an excellent polish and shows fine workmanship.

No. 1607 has the rare shape of a twisted pentagaon and was found in Ex. II at a depth of 11 feet in layer (3). It belongs to the Bahmani period. Occasional red-spots are noticed on the surface of the bead and it may therefore be called blood-stone.

Chalcedony Beads

Five chalcedony beads have been found.

No. 361 is a rare button shaped bead recovered from the Bahmani layers and the form is not repeated in any of the preceding levels at Brahmapuri.

No. 561 also belonging to the Bahmani period is a truncated hexagonal bi-cone bead, but shows signs of wear and was apparently an ancient specimen re-used. Faceted beads are generally rare in the Bahmani period.

The other three are flat annular beads of a common variety. These belong to the Bahmani and Late Sātavāhana levels.

Faience Beads (Plate XXV. A. B.)

The total number of faience beads found on the site is 42. With the exception of two specimens (Nos. 1841 and 1246) attributed to the Bahmani period, all the rest have been obtained from the Śātavāhana layers. It can therefore be said with some confidence that faience fell into disuse soon after the Śātavāhana period, as comparatively fewer specimens have been noticed in the Late Śātavāhana layers. Majority of the faience beads are bluish green in colour; but yellow, blue and white faience is met with occasionally.

The following shapes occur: Gadrooned bi-cone, 4 beads; Spheroids with notched gadroons in three different sizes, 20 beads; Groove collared barrels (circular in section) 15 beads, and lug collared barrels (lenticular in section) 3 beads. Annular beads (2 specimens).

The gadrooned bi-conical beads have been prepared by fusing or cementing two separately made pieces and the type seems to be restricted to the Śātavāhana levels.

The gadrooned beads are fashioned out of spherical or cylindrical balls, with notches to give effect of ribs which vary from 5 to 8. These are obtained in three different sizes, the medium shape being the most popular. Two beads of this type have short lugged ends attached to them (Nos. 1409 and 1961) and are noteworthy for these shapes. Certain beads of the gadrooned variety are found to have a thin micacious silvery shining film adherent to their surfaces and it is probable that they were coated with a glaze.

Fifteen collared beads (circular in section) have been found. These are well distributed all over the area in the Śātavāhana levels; one bead No. 1246 found in layer (3) and attributed to the Bahmani period seems to be an instance of an old bead being re-used. The collars are fashioned by incising grooves near the two ends of the cylindrical beads; but in the case of lenticular beads these have the shape of a lug. Three beads with collared lugs have been found, one of which (No. 2120) is of yellow faience.

Collared beads have recently received much attention. A close study of specimens from Taxila showed that among the two classes viz., the groove-collared and the lug-collared, the former shape was prior in date. At Arikamedu on the East Coast the same priority of the groove collared beads over the lug collared ones was noted. In a large collection of beads from Kondapur examined by me both the types existed but their priority could not be determined for want of specific stratagraphic data. At Kolhapur, however, lug collared beads begin to appear in layer (7) and

are later than the groove-collared ones found in layers (9-10) and their stratigraphical position thus corroborates the findings at Taxila. The glass beads at Kolhapur point to the same conclusion.

Paucity of annular beads in faience (only two beads were found) is noteworthy.

Steatite Beads

Only two beads of steatite (Nos. 1245 and 2064) have been noticed. These are common spheroids of no interest. No glazed steatite has been found in the Kolhapur Excavations. Steatite however was a common object found in all the layers and used for pencils and playthings like marbles.

Gold Beads

Two gold beads (Nos. 239 and 1265) were found. These occurred in the Bahmani layers in Sq. IV. These are two tiny beads about $\frac{1}{8}$ in. in diameter and have large annular holes. Gold foil was noticed occasionally in the Bahmani and Sātavāhana layers and a gold pendant set with rubies Plate XXXIV. B. is described elsewhere in this report.

Terracotta Beads (Plate XXVI. A.)

The number of terracotta beads found in Kolhapur amounts to 328. Various shapes are noticed: spherical, barrel-shaped, pear- or areca-nut shaped, square cylinders, tablet shaped, bi-conical. Among these the common shape is the pear- or areca-nut. Numerous beads of this shape occurred in all the layers at Brahmapuri and the type seems to be a very common one as on many ancient sites in India.

Areca-nut shaped beads found at Kolhapur are generally without any slip, prepared out of a fine clay with sand as the main degraissant, turned on a very fast rotating wheel and baked very hard. This baking has often helped to preserve the bead which is very rarely found broken. In several cases the beads have a milled appearance to an extent of showing parallel groove marks at very close intervals. The butt end of the bead in most of the cases has a very deeply incised groove made by a sharp instrument while in motion on the wheel. A shallow cup-like depression near the butt characterises these beads as areca-nut shaped.

Areca-nut shaped beads occur in all the layers at Brahmapuri and a quantitative analysis shows that the type is gradually on the wane in the Bahmani period and generally abundant in the Sātavāhana and Late Sātavāhana periods. Various sub-types of the shape are noticed, denoted by the height of the bead, those emanating from the Sātavāhana strata being generally larger in diameter and squat in proportions. The typical cup shaped depression at the butt end is generally very shallow in the Late Sātavāhana period and almost flat in the beads from Bahmani layers. Several beads however maintain the same pear-profile throughout the layers.

Bi-conical beads occur in all the strata and are often found treated with a black slip, which is occasionally red in the Bahmani layers. Several spherical beads, common to the three main periods at the site, indicate that they were not so well made as the areca-nut shaped beads described above; some of them are hand-made, show attrition marks at their edges indicating that they were pierced with a sharp instrument and in one case a small iron nail used for this purpose was still left in the hole. The clay used for certain of these beads is extremely light and bears a reddish brown slip. The percentage of spherical beads found on the site however is very small as compared to the areca-nut shaped beads which has been the predominant type at Brahmapuri. The number of barrel shaped terracotta beads is similarly very small being only 12; these are again distributed all over the site and associated with the Bahmani, Late Sātavāhana and Sātavāhana strata. Only one tablet shaped terracotta bead was found at Kolhapur in the Sātavāhana layers and was found broken. One unusually large square cylinder bead (No. 2689) Fig. 30: 36 has been recovered from the Sātavāhana levels and from the dimensions it would appear to have been used for hanging round the neck of some animal. It is made out of well levigated, dirty black looking clay and bears a fine burnished thick jet black slip.

Some of the important varieties of terracotta beads are described below.

No. (Plate XXVI. A. 6 and Fig. 31: 33) is a small square eye bead of terracotta; with a bright red slip, an extremely well levigated clay, prepared out of a mould and bears the representation of the eye in high relief; it has attrition marks at one of the edges and while pressing into the mould the potter has left his finger impressions on the reverse. Though recovered from the Bahmani stratum considering the numerous pendants and other small finds emanating from the Late Sātavāhana levels which are very closely allied to the fabric and the general make up of the bead, I would consider it as originally belonging to the Late Sātavāhana period but subsequently re-used in the Bahmani period. Attrition at one end of the perforation and the general absence of any moulded ware in the Bahmani pottery would support this assumption.

The representation of the eye on this bead shows that it was used as a charm against the evil eye, commonly practiced in India and may be styled as a Drishṭa-maṇi. This however is the only specimen of this description to be found at Kolhapur.[1]

Nos. 1007 and 1072 (Plate XXVI. A. 8 and 10) are curiously shaped button spacing beads with a flat base and a convex top and a deeply incised groove running round the margin. Two parallel holes indicate that they were used as spacers between two strings of beads. These belong to the Bahmani period and the type does not recur in any of the preceding

[1] This bead is comparable to a terracotta bead from Besnagar, ASI. AR, 1913–14, Pl. LX.

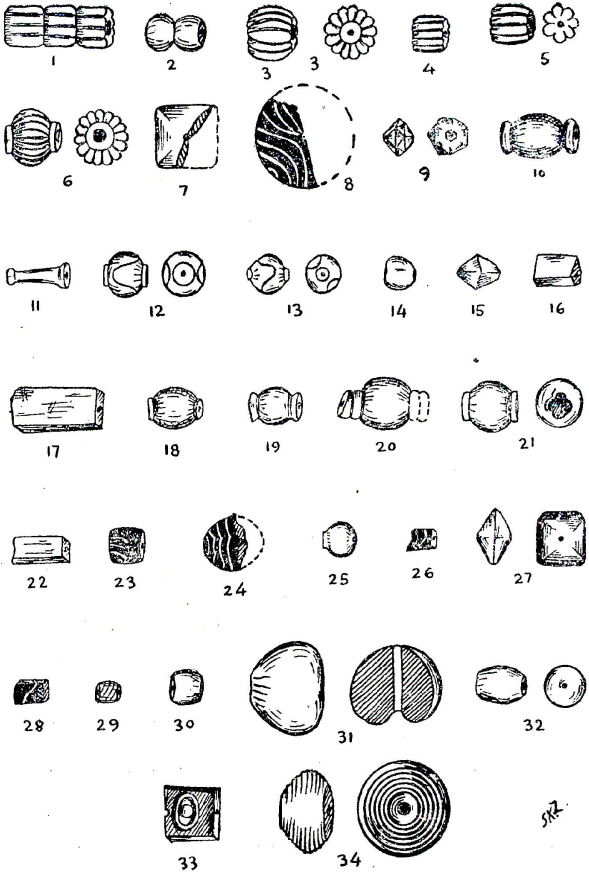
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FIG. 31. BEADS

levels at Brahmapuri. Besides these, two fragmentary beads of identical description were also recovered from the same strata.

No. 4047 (Plate XXVI. A. 2) is another spacing pendant of pottery with a deep brown slip, recovered from the Sātavāhana stratum. It has an ornamental device in the shape of horizontal and vertical flutes or ribbings at the top and an elongated tapering body below. The lower portion of this pendant is broken and the underside is flat. Two holes in the upper portion show that it was a spacing bead-pendant.

This type of bead-cum-pendant seems to have been popular in the Sātavāhana period. Several pendants of the same description are known to me from the Kondapur site museum, where the lower register is found decorated with a fluted *āmalaka* or clustered beads. In the excavations at Karad one similar pendant has been found and is preserved in the collection of the Bharat Itihasa Samshodhaka Mandala, Poona.

No. 2900 (Plate XXVI. A. 9) is another typical amulet bead, with a number of ribbings on its cylindrical body and convex knobbed sides. The amulet is unperforated and was held within capped ends with loops attached to them on both the sides. It is assigned to the Sātavāhana period. Several amulets of this type have been found at Kondapur also. Amulets with capped ends are common at Mohenjo Daro and the antiquity of the type therefore is a very remote one in India.

Another amulet No. 3673 (Plate XXVI. A. 3) is rectangular in shape and decorated with a number of beads in high relief enclosed within borders. This pattern is moulded and the same design appears on both sides. It is assigned to the Sātavāhana period. In these layers two more fragmentary amulets, trapezoid in shape, decorated with beads and heart-shaped designs in relief, have been found. (Plate XIX. B.) Both of them are decorated on one side only and on their reverses finger prints of the potter show that they were cast from moulds.

Three pendants (Plate XXVI. B. 1,3,5) found in the Sātavāhana layers show a different technique in their manufacture. These are circular discs cast from moulds and with loops attached to them on the top. The pattern on the disc is a form of a lotus or a rosette with a central knob surrounded by petals. In one the decoration consists entirely of pellets. Each of the pendant bears a dark red slip and is very well finished. All of them belong to the Sātavāhana period.

Excavations at Kondapur have yielded several pendants of this type and show identical decoration.

No. 2294, (Plate XXVI. B. 2) is a crescent shaped pendant, also belonging to the Sātavāhana period, cast from a mould and decorated with two bands of decorated beads arranged in the shape of a cross superimposed by a small deeply incised pellet in the central portion of the ornament. Pendants of identical shape have also been noticed in the excavations at Kondapur, where the site museum preserves no less than sixteen such

specimens.[1] In most of the cases loops of the crescent approach each other leaving a very small gap in between the two ends and from the broken edges it would appear that some arrangement was made to insert a pin or a pointed wire-like device which held the ornament in the ear-lobe or more probably on the centre of the forehead. The bulky size and weight of the terracotta pieces both at Kondapur and Kolhapur probably point to the forehead as the proper place for these ornaments. Similar objects of decoration are met with at Bhir Mound in Taxila[2] where the form is repeated both in terracotta and gold. The latter have two small holes for suspension at both the ends of the crescent, which was perhaps the case with the terracotta pendants at both the two Sātavāhana sites mentioned above. Unfortunately the ends of Kolhapur ornament are broken at their edges which if intact would have indicated this feature very clearly.

One of the most interesting types of pendants discovered at Kolhapur is a clay bullae prepared from a Roman coin (No. 1386) (Plate XXVI. B. 6.) It bears the head of the emperor in low relief facing right with a marginal legend on both the sides of the figure. A circle of small dots and a raised rim appears on the border. The legend on the bullae has not been read successfully but the letters "NO" are quite clear in the legend on the left hand margin. Finger prints appearing on the reverse prove that it was taken from a mould. This clay imitation of a Roman coin is one of the outstanding objects recovered from the Sātavāhana levels at Kolhapur and has much to say about the culture contacts which Kolhapur had with the classical world. Imported pottery, shapes of certain glass beads (discussed below), and the number of foreign antiquities having Roman influence found at Kolhapur in the previous excavations by Prof. Kundangar (cf. Plate XXXIII) show a great trend of cultural migrations.

In fact Kolhapur is not alone in the field. Clay imitations of 16 Roman coins together with a gold coin of the Emperor Augustus (23 B.C.-A.D. 14) have been found in the Sātavāhana stratum at Kondapur in the Hyderabad state (cf. A.B.O.R.I., Vol. 22, Plate XIII b). From Chandravalli in the Mysore State is reported of two dinarii of Tiberius (Died A.D. 37) and one terracotta "cast" of a Roman coin (Mysore Museum No. 1354) (cf. *Excavation at Chandravalli*, p. 29). Similarly in the excavations at Rajghat near Benares, three bullae in terracotta, bearing on them the devices of classical heads of Roman emperors have been found (cf. *Journal of the Numismatic Society of India*, Vol. III (1941), Plate V. 17-19). Nearer home, among the surface explorations at the ancient site at Karad, which is only 42 miles due north of Kolhapur, one clay medallion almost similar to the one from Kolhapur has been found and now preserved in the Museum of the Bharat Itihasa Samshodhaka Mandala, Poona. (*Explorations at Karad*, p.30 Plate XIII C-D). The medallions at Karad, Kolhapur, Rajghat, and Chandravalli have each of them two small holes

[1] DIKSHIT, *Some Beads from Kondapur*, Plate V, 252 (Hyderabad, 1952.)

[2] Cf. *Ancient India*, No. 1. Plate VI C and Plate IX 1.

at their tops for suspension and have invariably some finger marks on their reverse. The medallions at Kondapur have an additional feature in having a loop at the top. Similar medallions are also reported to have been found at Sisupalgadh in Orissa (information from Mr. Kalyan Kumar Gangoly, who has studied the specimens in the Ashutosh Museum of Art in the Calcutta University).

Much information is now available regarding the widespread contact of the foreigners, by way of sculpture at Nagarjunikonda,[1] by the find-spots of several Roman coins and objects in India, from the classical literature and actually by the discovery of an Indian ivory statuette at Pompei,[2] in Italy. For comprehensive survey the reader is referred to Ancient India, No. 2, pp. 17-135 in the report on the excavations at Arikamedu.

Clay copies of Roman coins have since been found at Sisupalgadh in 1947-48[3] as also at Kholapur in Central Provinces.[4]

Glass Beads (Fig. 31: 1-30)

A very large number of beads found at Kolhapur are made of glass. Blue, various shades of green, yellow, copper-red, black are some of the colours used. These occur uniformly in all the layers of the site and their accurate dating has been possible from the numerous associated objects and coins. The time span of their distribution enables us to give a very comprehensive picture of the bead industry at Kolhapur for nearly 1200 years and it is for the first time that such a study has become possible from accurately dated strata in the excavations from a single site in India.

Various processes are employed in their manufacture. Much glass slag and the number of unfinished beads, in various stages of manufacture indicate with certainty that glass was actually worked at the site. Glass bangles, rings and other articles described elsewhere in this report were also manufactured alongside with the beads.

Glass obtaining at Kolhapur is of a very good quality and is generally very well preserved. Only in rare instances the original transparency and the brilliance have been affected by the damp nature of the soil and disintegration. Their vitrous nature however is evident where certain beads have been found broken.

Most of the beads from the different layers at Kolhapur are wire-wound beads and are fire polished. Moulded beads also occur, particularly more abundant in the Sātavāhana layers; but cane beads are very poorly

[1] LONGHURST, Buddhist Antiquities of Nagarjunikonda, *M.A.S.I.*, 64, Plate X, (c) and (d).

[2] *Annual Bibliography of Indian Archaeology*, for 1938, Vol. XIII, pp. 1-5; and Plate I. D' ANCONA, "An Indian Statuette from Pompei" *Artibus Asiae* Vol. XIII, 3, pp.166–180.

[3] *Ancient India*, No. 2, pp. 17, 101, 116–121.

[4] *Ancient India*, No. 5, pp. 101–102 and Plate L.B. where a summary of Roman Bullae found in India is given.

represented and consist of a few specimens. Beads with composite structure, of variegated glass are similarly very few but are distinctive for each period. The various processes of manufacture have been described while studying these types.

A very wide range of shapes is to be found in the beads. Spheroid, cylindrical, barrel, disc, fluted, bi-conical are some of the shapes largely used; but by far the large majority consists of spherical beads to be followed by an almost equal number of cylinders. As a rule it might be stated that the glass beads from the Sātavāhana layers at Brahmapuri are comparatively large in size and show a greater variety of shapes, than those from the Bahmani layers.

The following gives the general distribution of the glass beads according to their colours and shapes. The most distinctive of the beads and special types have been described separately.

Green Glass Beads : Oblate beads

Variety A. Tiny, measuring from $\frac{1}{2}$ mm. in length about $1\frac{3}{4}$ mm. in diameter upto 2 mm. in length and about the same diameter. Uniformly distributed in all the layers of the site. These are more common in the Bahmani layers and occur only occasionally in the Sātavāhana stratum. This distribution however is no indication of the popularity as the Sātavāhana levels at Brahmapuri have not been adequately explored.

Variety B. Medium beads. Total number of beads recovered is 68 and have a uniform distribution in all the layers.

Variety C. Large beads. Size varying from 5 mm. in length and about the same in diameter. Total number found is only 22 beads. These occur in all the layers but are more abundant in the Bahmani stratum.

Beads with yellow matrix and a green coating outside. 10 beads. Mostly restricted to the Bahmani layers.

Hexagonal bi-cone: 1 bead fragment: Bahmani period.

Collared bead: 1 bead from the Sātavāhana levels.

Gadrooned truncated bi-conical bead: 1 bead from the Bahmani stratum.

Barrel shaped beads: 3 beads from the Bahmani layers.

Bi-cone beads: 5 beads, moulded, occur in the Bahmani and Late Sātavāhana strata.

Disc shaped: 2 beads of a large size about $4\frac{4}{10}''$ in diameter and $\frac{1}{10}''$ in thickness. Common to Bahmani and Sātavāhana strata. Small sized disc beads more common in the Bahmani layers where six specimens have been recovered.

Cylinder barrels: 14 beads of various sizes. More common in the Bahmani period and rare in the Sātavāhana stratum.

Yellow Glass Beads

About 125 yellow glass beads have been found on the site and are distributed uniformly in all the layers. These beads have a peculiar yellow shade resembling sulphur and in this study beads with a golden hue found on the site have been dealt with separately. Yellow beads are opaque and have a bright vitreous lustre.

Several of the beads are made by the wire-wound process i.e., by coiling a wire round a spoke and twirling it to a requisite shape. Cane beads in yellow glass are absent. Moulded beads are very rarely to be found, and are peculiar to certain shapes only. Blown glass beads do not appear.

Yellow glass is very frequently used in the making of the bangles found on the site, and seems to a very common type of glass in India. Identical sulphur coloured glass is known from several sites in the Deccan. Specimens of beads from Kadkal, Maski, Kondapur and Paithan preserved in the Hyderabad Museum indicate that it was very extensively used. The yellow glass beads from these sites and their parallels with the beads from Kolhapur have been dealt with while describing the individual types.

Not much variety in shapes is to be noticed in the yellow beads. Oblate beads appear in great abundance and account for 100 beads out of the 125 beads found. Even among these medium sized beads seem to be preferred, the number of large sized beads found being only 5 and small beads are restricted to the Bahmani period.

Disc shaped beads also occur in a small quantity and number 3. A few of the beads are shaped like the links of a chain joined together and the effect is produced by pressing a sharp instrument while the glass was in a plastic state. Identical beads from Kadkal, Maski and Paithan are preserved in the Hyderabad Museum.

Seven terminal beads of yellow glass have been obtained in the excavations, and the type seems to be restricted to yellow glass only. The bead has the shape of a long tapering cylinder with a slight bulge on one side, which often has a well defined ridge, giving it the appearance of a "Papyrus Sceptre" bead illustrated by BECK, Classification of Beads and Pendants Fig. 27 and belonging to his Group XXIX A. 4.

All the beads are made of spiral glass, rotated and finished at the tapering side, by cutting off the edge with a knife. In some cases the glass is mixed with another kind of black glass which helps to show the structural spirals in the bead.

These terminal beads are restricted to yellow glass only and all the specimens (7 in number) occur in the Bahmani layers.

The earliest example of this shape outside India is that of the "Papyrus Sceptre" bead cited above, which is ascribed to the XVIIIth Dynasty in Egypt. But the shape is also noticed in certain steatite beads

found at Harappa,[1] and seems to be a very ancient type. Curiously enough this shape is absent from any of the earlier levels at Kolhapur. I have seen identical specimens from Kadkal and Maski in the Hyderabad Museum and the glass used for making them is almost similar to yellow glass found in Kolhapur.

Convex bi-cone is another shape very often represented in the yellow beads and 12 specimens have been noticed. Most of them occur in the Bahmani layers save one (No. 3329) which belongs to the Sātavāhana period.

Collared yellow glass beads are absent in the opaque variety but a kind of yellow translucent glass is used for one bead, No. 2051 from the Sātavāhana layers. It is full of bubbles and the collars at the end are made by coiling.

Beads with inlaid gold foil

The lowest levels of the excavations have yielded a few golden coloured beads with differ considerably from the opaque variety of yellow glass just described. These have a peculiar sparkle about them which distinguishes them from the sulphur coloured beads. It would appear as if some gold foil was used as a underside layer over which a coating of glass was given. Such beads when broken for examination show a distinct layer of the foil between two layers of glass, which has a crackled appearance under the microscope. Two complete specimens of these beads are illustrated in the Colour Plate (Pl. No. XXXVII) and have lug collars at their ends. No. 2580 is fluted, while the other No. 1316 is a cylindrical barrel. Both of them belong to the Sātavāhana period and from the paucity of these beads it seems likely that these were imported, or at least copied locally after foreign examples.

Besides the collared beads above referred to there are a few spherical beads with anular holes referrable to the Sātavāhana period. [Exactly identical beads are also met with at Karad (Bead No. 121 in the B.I.S. Mandala).]

Blue Glass Beads

Next in importance to the yellow beads are some beads of blue glass. Nearly 168 beads have been recovered and their shades range from a pale sky blue to a deep navy blue. It is often very difficult to distinguish between shades of green and blue. In dealing with them I have considered only those beads which have a decidedly bluish tinge and have classified the rest among the green beads which are found in a very large number.

Most of the beads appear to have cobalt or copper as the main constituent colouring agent. Several beads are manufactured by the wire wound process, a few are moulded; cane and folded beads occur in a very small quantity. Several beads are full of bubbles and this is particularly to be marked in the beads with a light tinge where they show very

[1] Vats, *Excavations at Harappa*, Pl. CXXIX, 57.

clearly. Mostly dark blue beads coloured with cobalt are free from these bubbles; and cobalt glass seems to have been very extensively used and manufactured on the site as indicated by an overwhelming majority of glass bangles, wires, slag and other glass objects found.

A variety of shapes are obtained and by far the largest number of beads are spheroid, oblate or cylindrical. Collared and gadrooned beads are represented in a large number. These are distributed in all the layers but the latter two forms are more abundant in the Sātavāhana and Late Sātavāhana periods.

The most common type of blue glass is illustrated by Bead Nos. 138, 3252 and 3033 in the Colour Plate (XXXVII). Both transparent and opaque beads of blue glass occur on the site, those belonging to lower levels being generally translucent and distinctive. Segmented and double beads is a special feature among the early beads found on the site.

Fig. 31 shows several beads of blue glass. No. 4109 is a typical gadrooned cylinder consisting of three beads, belonging to the Sātavāhana period. It is of pale greenish blue glass and is manufactured by shaping a flat piece of plastic glass into a cylinder over which gadroons are notched by a sharp instrument while the glass is still hot and then divided into segments. Individual beads from these cylinders could be separated afterwards by cutting. Four such cylinders and two single beads have been found in the Sātavāhana layers. At Kondapur beads of an identical shape and colour have been noticed and occur in a very large quantity. The type therefore seems to be a very common one in the Sātavāhana period.

Bead Nos. 2843, 4014 (also in the Colour Plate) and 1090 are typical cobalt coloured melon beads which occur in a fairly large quantity in the Sātavāhana layers at Kolhapur. These have a very dark shade of blue and several of them are joint beads. The type appears to have a very wide distribution and is common among the beads at Kondapur, Chandravalli where large quantities of similar beads occur. In the excavations at Karad one bead of this type was recovered from the Sātavāhana stratum.

Beads of the collared variety deserve a special mention amongst the blue glass beads from Kolhapur. These are cylindrical barrels with notched or grooved collars effected at their ends and the type also occurs in beads of other materials from Kolhapur. Several glass beads of this shape occur in the Sātavāhana layers and the type is distinctive for the period. Among the two shapes of collared beads the lug collared variety is only very rarely represented in the collection of blue glass beads from Kolhapur but occurs in a very large quantity among the beads from Kondapur, beads with a lenticular cross section being the most numerous. Excavations at Chandravalli have also yielded beads of both the types and use an identical cobalt coloured glass like the Kolhapur and Kondapur beads. At Karad one bead of this type emenates from the Sātavāhana stratum.

Disc shaped beads of blue glass are comparatively very rare at Kolhapur and only one bead was found (No. 901) in the Bahmani layers. Long barrel shaped beads are similarly confined to the Bahmani stratum where only

three specimens have been found. Square cylinder shaped beads also occur at Kolhapur and one specimen from the Śātavāhana layers (No. 2228) is illustrated in Plate. It is of translucent cobalt glass, with a very large perforation. Beads of this shape are common at Kondapur, Chandravalli and the excavations at Karad have also yielded one bead fragment (No. 64) of this shape.

Among composite beads three beads of blue and white glass are noteworthy. No. 3033 illustrated in the Colour Plate XXXVII has an inner opaque white core resembling porcelain, over which a blue coating of glass has been given. Its edges show that it was cut from a large cylindrical tube. It belongs to the Late Śātavāhana period.

Nos. 1992 and 2080 (also illustrated in the Colour Plate) are two short square cylinders of deep blue glass in which a white opaque layer of another kind of glass is inlaid. Transparency of the blue glass shows that the white layer reaches the core at varying depths from the outer surface of the bead. Both these beads are folded beads and made by bending a flat strip of variegated glass into the required shape. The joint of these beads can however be seen very clearly in Bead No. 2080. This method of folded beads is largely employed in several beads from Kondapur[1] where similar beads of blue glass with a white layer in between their structures are noticed. Three specimens (Nos. 1112, 3677 and 3985 in the Mysore Museum) with identical technique have been found at Chandravalli. Blue glass beads with white zones are also known from the megalithic burials near Sulur, Coimbatore District (cf. Man, 1930, Art, 134) and the type seems to have a fair distribution in South India in the Śātavāhana period. These beads are somewhat similar to a bead from Sarawak, illustrated by Beck in MAN, 1930, Plate K. 16.

Green Glass Beads

Nearly 180 beads of green glass have been found in the excavations. These are distributed uniformly in all the layers. Both opaque and transparent beads occur. The glass used for them is of a good quality and rarely shows any bubbles. The most commonly noticed method of manufacturing these beads is to twirl a coil of plastic glass round a spoke and to rotate it till it gets required shape. Cane glass is very rarely met with.

Several shapes occur but a large number of beads are spherical, oblate and cylindrical. 112 beads of the total number found are oblate in shape and constitute the largest number of beads of this shape found. Small or medium shaped beads occur in great abundance and large sized beads are comparatively few in number. These occur uniformly all over the area but seem to be more common in the Bahmani period.

A vast majority of the green glass beads are opaque. Their shades vary from a pale green to dark sea-green and at times with a hue of deep bluish green thus making it difficult to choose between the two shades.

[1] DIKSHIT, *Some Beads from Kondapur*, Plate IV, 203, 204.

A few of the distinctive varieties may be dealt with first. Kolhapur has yielded only three beads of transparent green glass. (Nos. 1029, 1075 and 1487). Two of them are square bi-cones (Beck's type IX. D. 2-e) and are made by winding a piece of plastic glass round a core and by bring it to a requisite shape. No. 1487 shows all the spirals of these windings very clearly as the bead is not very well-finished. It has been ascribed to the Bahmani period. No. 1075, recovered from Sq. III, is well finished by fusing it again and by making its edges quite smooth. This bead is also contemporary with its proto-type just described. Bead No. 1029 has a slightly bluish tinge and cut from a large square cylinder tube of cane glass. It is about ½ in. in length and its edges show clearly that it has been separated by means of a sharp instrument. This bead is also associated with the layers of the Bahmani period, indicating that clear transparent glass was unknown in Kolhapur before the 14th century A.D.

Another bead characteristic of the Bahmani period, has a yellow core over which a faint green coating is given. The yellow matrix is seen at the sides of the cylindrical beads and a specimen cut for examination shows that for making it, a yellow bead has been rolled in green plastic glass and fused again. This method of making the beads in two colours is also repeated in some specimens of blue glass which are found to have a white core beneath them.

Though this method of manufacturing composite beads is noticed in the Bahmani period only in the Kolhapur excavations, the antiquity of this process can be traced back at least upto the 2nd century A.D. in India. Excavations at Kondapur in the Hyderabad State have yielded 3 beads of this type showing a red opaque layer over porcelain white matrix—a type which is often imitated in many of our modern beads. The Kondapur beads have been assigned to the 2nd century A.D. and have a remarkable similiarity with certain beads of the same technique from Mapungubwe and Zimbabwe in South Africa, whereas certain others found in the Fayum have been attributed to about the same date.[1]

Hexagonal bi-cone Bead

The excavations have yielded one green bead fragment (No. 2161). The facets show that it was hexagonal bi-cone bead of semi-transparent green glass. It belongs to the Bahmani period. This shape is very rare amongst the glass beads from Kolhapur.

Collared Bead

Another bead (No. 4048) shows that it had grooved collars. Flat and cylindrical beads with collars are a distinctive type for the beads of the Sātavāhana period but this specimen obtained from layer (5) in Sq. II at

[1] For further particulars see Bulletin of the Baroda State Museum and Picture Gallery, Vol. III, Part I, pp. 54 ff.

a depth of 16 ft. shows that the type must have continued into the post-Sātavāhana period as well. It might however be noted that this is the only collared bead amongst the green glass beads found at Kolhapur.

Gadrooned truncated bi-conical Bead

Bead No. 1381, is a gadrooned truncated bi-conical bead of greenish opaque glass and belongs to a type which does recur frequently at Kolhapur (Bahmani period.)

An exact parallel to this bead is noted amongst the black glass beads.

Barrel Beads

Only three barrel shaped beads of medium size were found in the excavations.

Of these the first two are wound beads; No. 756 has disintegrated considerably and the glass has become powdery. Bead No. 2053 is moulded. All these belong to the Bahmani period.

Bi-cone Beads

Five bi-cone beads (No. 1878, 1929, 2850, 3511, 4067) recovered from various levels ranging over from 6 ft. to 11 ft. 6 in. in layers (3) to (5) indicate that they were moulded beads. Only one bead (No. 1929) shows some signs of corrosion.

Disc shaped Beads

There are only two large disc shaped beads of green glass (Nos. 1928 and 2504). They are wound beads and the spirals can clearly be seen on each specimen. In one bead one side of it is flattened and has some unusual features in not having the perforation vertical to the axis.

Six smaller disc beads, made by the wire-wound process have slightly yellowish pale tinge.

All these beads belong to the Bahmani period.

Cylinder Barrels

A few among the beads are cylinder barrels and indicate the following distribution.

94	Sq.	IV	(3)	?
545	Sq.	I	(4)	?
609	Ex.	V	(3)	5 ft.
1094	Ex.	I	(3)	8 ft.
1147	Sq.	I	(5)	18 ft. 4 in.
1247	Sq.	II	(3)	6 ft.
1729	Ex.	IV	(3)	6 ft. 10 in.
1881	Ex.	V	(3)	5 ft. 8 in.
2024	Ex.	IV	(3)	9 ft.

2315	Sq.	I	(8)	21 ft.
2411	Pit.	II	(5)	16 ft. 10 in.
2550	Sq.	II	(6)	14 ft.
3027	Sq.	II	(5)	12 ft. 10 in.
3113	Sq.	II	(4)	11 ft. 4 in.

Of these beads Nos. 2315 and 2550 are attributable to the Śātavāhana period. Majority of the beads are short cylinders, the exception being No. 1729 which a long bead, half broken.

Cylinder barrel beads of green glass are very common at Kolhapur, 14 such being found. These are distributed in all the layers, the largest number being associated with the Bahmani period.

OBLATE

Variety A (tiny)

Nos. 1311, 1397, 1422, 1442, 1809, 2105, 2130, 2514, 2551, 2613, 2630, 2664, 2778, 2933, 3005, 3030, 3036, 3304, 3522, 3548, 4020. Total 22 beads.

Distribution: Locality

Sq.	I	1422.
Sq.	II	1311, 1397, 2130, 2514, 2551, 2664, 2778, 2933, 3030, 3036, 3548, 4020.
Sq.	IV	1442, 2613, 2630, 3005, 3304.
Ex.	IV	3522.
Ex.	V	1522, 1809.
Pit.	II	2105.

Distribution: Layers and Depths

Layer	*Sq. I*	*Sq. II*	*Sq. IV*	*Ex. IV*	*Ex. V*	*Pit II*
(3)	(1422)	5·6 (1397)	6·0 (1442)		6·2 (1809)	
					6·8 (1522)	
		10 ft. (1311)				
		10 ft. (2130)				
(4)		10·2 (3036)	7·1 (3005)			7·1 (2105)
		10·2 (3030)	7·8 (2630)			
		10·8 (2664)	7·10 (2613)			
		11·4 (2933)	10·3 (3304)			
(5)		11·6 (2778)		(3522)		
		12·2 (2551)				
		12·2 (2514)				
		13·3 (3548)				
(6)		16·2 (4020)				

The tiniest specimen recovered measures $\frac{1}{2}$ mm. in length and about $1\frac{3}{4}$ mm. in diameter (No. 3030).

Variety B

SMALL BEADS

Nos. 200, 339, 461, 462, 534, 584, 664, 730, 836, 894, 900, 941, 954, 960, 1057, 1079, 1083, 1095, 1157, 1168, 1221, 1310, 1350, 1508, 1570, 1577, 1655, 1661, 1703, 1713, 1721, 1732, 1735, 1787, 1808, 1867, 1930, 1932, 2052, 2066, 2090, 2264, 2509, 2515, 2516, 2517, 2614, 2663, 2706, 2722, 2780, 3003, 3037, 3077, 3085, 3091, 3114, 3171, 3186, 3197, 3365, 3553, 3628, 3645, 4128, 4157, 4165. Total 68 beads.

Distribution: Locality

Sq.	I	200, 461, 462, 960, 1079, 1083.
Sq.	II	534, 664, 954, 1057, 1168, 1310, 1713, 1867, 2264, 2509, 2515, 2516, 2517, 2614, 2663, 2706, 3037, 3077, 3085, 3171, 2780.
Sq.	III	894, 1221.
Sq.	IV	334, 584, 730, 1570, 1787, 2052, 2066, 2090, 2722, 3003, 3091, 3114, 3197, 3565, 3645, 4128.
Ex.	II	1157, 1721.
Ex.	III	4157, 4158, 4165.
Ex.	IV	1095, 1350, 1508, 1577, 1655, 3553, 3628, 4027.
Ex.	V	836, 900, 941, 1661, 1732, 1735, 1808, 1930, 1932.

Distribution: Layers and Depths

Layer	*Sq. I*	*Sq. II*	*Sq. III*	*Sq. IV*	*Ex. II*	*Ex. IV*	*Ex. V*
(3)	x(200)	4′–3″ (1168)	8′–9″ (894)	4′–4″ (730)			
	x(461)	5′–4″ (534)	10′–9″ (1221)	5′ (334)	8′–9″ (1157)	7′ (1350)	5′–1″ (900)
		7′ (1703)		6′ (1570)		8′ (1095)	5′–8″ (1808)
		7′–8″ (1713)		6′–4″ (1787)		9′–10″ (1508)	6′ (1930)
		7′–10″ (1867)		8′ (2066)		11′–2″ (1577)	6′–2″ (1661)
		8′–9″ (664)		8′ (2090)		11′–10″ (1655)	6′–6″ (1932)
		11′–4″ (954)		8′ (584)			6′–6″ (941)
							6′–9″ (836)
(4)	10′–4″ (461)	10′–2″ (3037)		7′ (2052)			
	14′–6″ (960)	10′–8″ (2663)		8′–5″ (3197)			
	16′–6″ (1079)	11′–4″ (2614)		9′–1″ (3003)			
	17′–8″ (1083)	11′–8″ (1057)		9′–2″ (2722)			
		12′–2″ (3171)		10′–8″ (3365)			
		13′ (1310)		11′–2″ (3114)			
				11′–6″ (3091)			
(5)		11′– 4″ (3085)			13′–10″ (4158)	11′–6″ (4027)	
		11′– 6″ (2780)			14′–3″ (4157)	12′–2″ (3553)	
		11′–10″ (3186)			14′–6″ (4165)		
		12′ (2516)					
		12′– 2″ (2507)					
		12′– 2″ (2517)					
		12′– 4″ (2264)					
		13′ (2515)					
		13′ (2706)					
(6)		12′– 4″ (3077)		14′–8″ (4128)	13′–4″ (1721)	14′ (3628)	
				15′–6″ (3645)			

Variety C

LARGE BEADS

Nos. 893, 1064, 1073, 1115, 1720, 1728, 1845, 1995, 2010, 2125, 2297, 2409, 2410, 2511, 2554, 2654, 2930, 3032, 3082, 3170, 3406, 4028. Total 22 beads.

Distribution: Locality

Sq. II 1073, 1115, 2125, 2511, 2930, 3032, 3082, 3170.
Sq. III 893.
Sq. IV 1995, 2554, 3406.
Ex. II 1720.
Ex. IV 1064, 1728, 4028.
Ex. V 2010.
Pit. II 1845, 2297, 2409, 2410, 2654.

Distribution: Layers and Depths

Layers	*Sq. II*	*Sq. III*	*Sq. IV*	*Ex. II*	*Ex. IV*	*Ex. V*	*Pit II*
(3)		6 (893)	7.1 (1995)		6 (1728) 9.9 (1064)	7.2 (2010)	7. 5 (1845)
(4)	9 (2930) 10. 11 (2125) 11. (1073) 11. 4 (1115)		7 (2554) 10.4 (3406)				
(5)	11. 1 (3170) 11. 4 (3082) 12. 5 (3031)				11.3 (4028)		16. 7 (2297) 16.10 (2409) 16.10 (2410)
(6)	13. 6 (2511)				19.8 (1720)		20. 6 (2656)

A number of copper red beads, which were first taken to be of some vitreous paste, were found. The shapes include long cylinders, cylindricals beads of the standard size and a few oblate ones. Most of these are confined to layers (3), (4), and (5) but they appear occasionally in layers (6) and in one instance even in layer (8); but the depth in this case is somewhat doubtful as regards the associations. Most of them therefore can safely be placed in the Bahmani period, but it is also possible that they might have an earlier origin if the last mentioned bead can be placed correctly and ascribed to the pre-Bahmani period.

One bead cut for examination shows that the interior of these beads consists of a bluish green glass which was rolled in red moulten glass of terracotta or copper red colour (as indicated by the shining and glassy appearance of nearly all the specimens). In some cases only they have a dull reddish appearance which seems to be due to its corrosion after having lain in earth for a long time.

Excavations at Kondapur have yielded similar reddish glass beads, mostly cylindrical in shape and appear to be later in date than the

Sātavāhana period. The excavations at Chandravalli also have yielded several similar red beads both from the 1947 and earlier excavations. A few beads preserved in the Mysore Museum show that beads of this variety of glass have been found elsewhere in the Mysore State but the names of these sites are not known at present. Beads of identical glass are to be seen in the surface collections made at Arikamedu and a few among these are preserved in the Museum of the Deccan College Research Institute. Cylindrical slag of a similar glass occurs among the beads sent over to me by Mr. E. F. O. Murray which is reported to have been found extensively in the mining districts of Dhalbhum in Chota Nagpur. It is worthy of note that beads of transparent bluish green glass coated over with opaque copper red-glass are represented among South African beads found in the Mapungubwe district and a small collection of such beads exists in the State Museum and Art Gallery, Baroda.

Long Cylinders

(*a*) Fairly large diameter. 10/32 inch.

1302	Sq. II	(3)	7 ft.	
1873	Ex. II	(6)	14 ft. 6 in.	
490	Ex. IV	(3)	10 ft. 2 in.	

(*b*) Small diameter (ranging from 2/32 inch to 6/32 inch).

1586	Ex. V	(3)	4 ft. 6 in.	
1337	Sq. IV	(3)	6 ft. 2 in.	
1648	Sq. IV	(3)	6 ft. 4 in.	Below Wall I.
1731	Ex. IV	(3)	6 ft. 10 in.	
1395	Sq. II	(3)	7 ft. 10 in.	
1067	Ex. IV	(3)	8 ft. 4 in.	
1098	Ex. IV	(3)	9 ft. 10 in.	
864	Ex. IV	(3)	10 ft. 2 in.	
3119	Sq. IV	(4)	7 ft. 5 in.	
2674	Sq. II	(4)	8 ft. 1 in.	
2945	Sq. IV	(4)	9 ft.	
2134	Sq. II	(4)	9 ft. 11 in.	
3229	Sq. IV	(4)	10 ft. 3 in.	
3029	Sq. II	(4)	10 ft. 10 in.	
1019	Sq. II	(4)	11 ft.	
2135	Sq. II	(4)	11 ft.	
3090	Sq. II	(4)	11 ft. 2 in.	
3089	Sq. II	(4)	11 ft. 2 in.	
2617	Sq. II	(4)	11 ft. 4 in.	
4080	Ex. III	(5)	10 ft. 6 in.	
3601	Sq. II	(5)	14 ft. 1 in.	
1874	Ex. II	(6)	6 ft. 8 in.	(Doubtful).

(*c*) Standard Cylinders

817	Sq. II	(3)	4 ft. 3 in.
1076	Sq. II	(3)	5 ft. 8 in.
1594	Ex. V	(3)	6 ft. 4 in.
1457	Ex. V	(3)	6 ft. 4 in.
1097	Ex. IV	(3)	8 ft.
1879	Ex. IV	(3)	8 ft.
770	Sq. II	(3)	8 ft. 7 in.
952	Sq. II	(3)	9 ft. 6 in.
1034	Ex. II	(3)	9 ft. 8 in.
827	Ex. IV	(3)	10 ft.
1114	Sq. II.	(3)	12 ft.
1275	Ex. IV	(3)	14 ft.
563	Sq. I	(4)	3 ft. 10 in.
546	Sq. I	(4)	6 ft. 6 in.
3316	Ex. III	(4)	6 ft. 6 in.
937	Ex. V	(4)	7 ft. 10 in.
2946 and 2675	Sq. IV	(4)	8 ft. 7 in.
2963	Sq. IV	(4)	9 ft. 6 in.
3275	Sq. IV	(4)	9 ft. 7 in.
3303	Sq. IV	(4)	10 ft. 2 in.
3227	Sq. IV	(4)	10 ft. 3 in.
3491	Ex. IV	(4)	10 ft. 6 in.
3477	Sq. IV	(4)	10 ft. 10 in.
3512	Sq. II	(4)	11 ft. 3 in.
3088	Sq. II	(4)	11 ft. 6 in.
2246	Sq. IV	(4)	
4103	Ex. III	(5)	10 ft.
2267	Sq. II	(5)	11 ft.
3556	Ex. IV	(5)	12 ft.
3651	Sq. IV	(5)	12 ft.
3559	Ex. IV	(5)	12 ft. 2 in.
3560	Ex. IV	(5)	12 ft. 2 in.
3205	Ex. IV	(5)	13 ft. 4 in.
4248	Sq. IV	(5)	15 ft.
2869	Sq. I	(6)	Depth not known.

OBLATE BEADS

Nos. 583, 843, 1179, 1273, 1303, 1656, 1883, 2136, 2506, 2563, 2647, 2676, 2677, 2678, 2713, 2808, 2994, 3084, 3112, 3315, 3404, 3616, 4033, 4034, 4070, 4185. 26 beads.

Distribution: Locality

Sq. II 843, 1179, 1303, 2136, 2506, 3084.
Sq. IV 2563, 2676, 2677, 2678, 2716, 2808, 294, 3112, 3404, 583.
Ex. III 3315, 4185.
Ex. IV 1273, 1656, 3616, 4033, 4034, 4070.
Ex. V 1883.
Pit. I 2647.

Distribution: Layers

Layer	*Sq. IV*	*Sq. II*	*Ex. III*	*Ex. IV*	*Ex. V*
(3)	6 (583)	6·9 (843)		5·6 (1656) 6·8 (1273)	6·2 (188)
(4)	7·4 (2563) 7·5 (3112)	10·4 (2136) 12·7 (1179)	6·10 (3315)		
	8·6 (2676) 8·10 (2677) 9·0 (2678) 9·0 (2994) 9·4 (2713) 10·3 (2808) 11·2 (3404)	13·0 (1303)			
(5)		12·2 (3084)		11·0 (4070) 11·4 (4034)	
(6)		13·0 (2506)	16·0 (4185)	13·0 (3616) 14·0 (4033)	
					18·6 (2647) in Pit. I

Black Glass Beads

DISC SHAPED

Nos. 659, 766, 898, 943, 1074, 1153, 1172, 1257, 1417, 1497, 1502, 1567, 1585, 1636, 1647, 1660, 1697, 1801, 1880, 1925, 1984, 1997, 2335, 3290, 3332, 3521.

Distribution: Locality

Sq. I 2335.
Sq. II 1074, 1172, 1636, 1697.
Sq. III 659, 1417.
Sq. IV 1257, 1502, 1567, 1647, 1925, 1984, 1997.
Ex. II 1153, 1497.
Ex. IV 1660, 1801, 3290, 3332, 3521.
Ex. V 766, 898, 943, 1585, 1880.

Distribution: Layers and Depths

Layer	*Sq. I*	*Sq. II*	*Sq. III*	*Sq. IV*	*Ex. II*	*Ex. IV*	*Ex. V*
(3)		5′ (1172) 5′ 10″ (1074) 6′ (1636) 7′ 6″ (1697)	5′ (659) 6′ (1417)	5′ (1567) 5′ 4″ (1647) 5′ 7″ (1925) 5′ 8″ (1257) 7′ 4″ (1997) 7′ 10″ (1502) 7′ 4″ (1984)	10′ (1153) 10′ (1497)	4′ 8″ (1660) 5′ 4″ (1801) 7′ 4″ (3290)	4′ 3″ (1766) 5′ 2″ (1585) 5′ 6″ (898) 6′ (1880) 6′ 4″ (943)
(4)							
(5)	17′ 8″ (2336)					? (3521) 8′ 6″ (3332)	

LONG CYLINDERS

Nos. 528, 1056, 1061, 1123, 1486, 1664, 2003, 2607, 2723, 2806, 3081, 3557, 4032.

Sq.	I	X
Sq.	II	1056, 1123, 1486, 2667.
Sq.	III	X
Sq.	IV	528, 2273, 2806, 3081.
Ex.	II	X
Ex.	IV	3557, 4032.
Ex.	V	1061, 1664, 2003.

Distribution: Layers and Depths

Layer	*Sq. I*	*Sq. II*	*Sq. III*	*Sq. IV*	*Ex. III*	*Ex. IV*	*Ex. V*
(3)							3′ 3″ (1061)
				? (528)			
							5′ 7″ (1664)
		6′ 8″ (1486)					6′ 6″ (2003)
		9′ 2″ (1123)					
(4)				9′ 3″ (2723)			
		10′ 10″ (1056)		10′ 4″ (2806)			
		12′ (2607)		11′ 3″ (3081)			
(5)						12′ 4″ (3557)	
(6)						14′ (4032)	

CONVEX BI-CONE

Nos. 135, 527, 565, 913, 1005, 1102, 1554, 1641, 1696, 2004, 2615, 2889, 2996.

Distribution: Locality

Sq.	I	565.
Sq.	II	537, 913, 1005, 1696, 2615.
Sq.	III	X
Sq.	IV	2889, 2996.
Ex.	III	1641.
Ex.	V	1102, 1584, 2004.

Distribution: Layers and Depths

Layer	*Sq. I*	*Sq. II*	*Sq. III*	*Sq. IV*	*Ex. III*	*Ex. V*	*Ex. IV*
(3)							5′ 2″ (1584)
		6′ (537)					6′ (1102)
		7′ (1696)			6′ 4″ (1641)		6′ 6″ (2004)
		7′ 6″ (913)					
		10′ 9″ (1005)					
		11′ 4″ (2615)					
(4)	8′11″(565)			6′ 8″ (2889)			
				7′ 6″ (2996)			

OBLATE

Variety A (*tiny*)

Nos. 921, 1136, 1443, 2608 (*a*)

Distribution: Locality

Sq.	IV	1443
Ex.	II	1136
Ex.	V	921, 2608 (*a*).

Distribution: Layers and Depths

Layer	*Sq. II*	*Sq. III*	*Sq. IV*	*Ex. II*	*Ex. IV*	*Ex. V*
(3)						6′ 1″ (921)
						6′ 4″ (2608)
		7′ 4″ (1443).				
			9′ (1136)			

OBLATE (MEDIUM)

Variety B

Nos. 201, 622, 924, 1025, 1066, 1104, 1105, 1107, 1151, 1163, 1254, 1396, 1500, 1569, 1581, 1582, 1605, 1636, 1662, 1698, 1699, 1884, 1885, 1886, 1935, 2063, 2076, 2078, 2079, 2127, 2781, 2228, 2229, 3117, 3185, 3254, 3285, 3364, 3524, 4035.

Distribution: Locality

Sq.	I	201, 622, 924.
Sq.	II	1396, 1636, 1698, 1699, 2127, 2781, 2928, 2929.
Sq.	III	X
Sq.	IV	1254, 1500, 1569, 2063, 3117, 3185, 3254, 3364, 3524.
Ex.	II	1104, 1105, 1107, 1151, 1163, 1605.
Ex.	IV	1025, 1066, 1581, 3285, 4035.
Ex.	V	1582, 1662, 1884, 1885, 1886, 1935, 2076, 2078, 2079.

Distribution: Layers and Depths

Layer	*Sq. I*	*Sq. II*	*Sq. IV*	*Ex. II*	*Ex. IV*	*Ex. V*
					3′ 8″ (3285)	
						4′ 6″ (1935)
						5′ 2″ (1582)
						5′ 6″ (1885)
(3)		5′ 1″ (1396)	5′ 4″ (1254)			5′ 8″ (1662)
		6′ (1636)	5′ 8″ (1569)			6′ (1886)
		7′ (1698)		6′ 6″ (1105)		6′ 6″ (1884)
		7′ 6″ (1699)		7′ (1107)	7′ 2″ (1025)	7′ 2″ (2078)
				7′ (1163)		7′ 10″(2079)
			8′ (2063)			8′ 4″(2076)
				8′ 8″ (1151)	8′ 6″ (1066)	
			9′ 2″ (1500)	8′ 8″ (1104)		
				11′ (1605)	12′ (1581)	
				8′ 1″ (3185)		
				8′ 5″ (3117)		
(4)	? (201)					
		10′ 6″ (2127)		9′ 4″ (3254)		
		11′ 4″ (2929)		10′ 10″ (3364)		
	11′ 6″ (622)	11′ 4″ (2928)				
	13′ 6″ (924)					
(5)		11′6″ (2781)	13′ 2″ (3524)			
					14′ 3″ (4035)	
(6)						

Variety C (large)

Nos. 309, 443, 469, 566, 755, 826, 837, 865, 908, 1004, 1009, 1011, 1047, 1135, 1162, 1343, 1583, 1725, 1797, 2679, 2718, 2810 (*a*), 2879, 2888, 3118, 3228, 3492.

Distribution: Locality

Sq.	I	566, 1011, 1047.
Sq.	II	837, 1004, 1009, 2810 (*a*), 2879.
Sq.	III	X
Sq.	IV	443, 2679, 2718, 2888, 3118, 3228.
Ex.	II	1135, 1162.
Ex.	IV	309, 469, 755, 826, 865, 1725, 1797, 3492.
Ex.	V	908, 1343, 1583.

Distribution: Layers and Depths

Layers	*Sq. I*	*Sq. II*	*Sq. IV*	*Ex. II*	*Ex. IV*	*Ex. V*
						4′ 8″ (1343)
(3)		7′ 2″ (837)		4′ (1135)	5′ 8″ (309)	5′ 3″ (908)
				7′ (1162)	5′ 10″ (1725)	6′ (1583)
					7′ 4″ (755)	
			8′ (443)		7′ 8″ (469)	
					7′ 8″ (1797)	
					9′ 6″ (826)	
(4)	8′ (566)	7′ (2879)	9′ (2678)		10′ 6″ (3492)	
	14′ 7″ (1011)	10′ 8″ (1009)	9′ 2″ (2718)		10′ 10″ (865)	
	14′ 7″ (1047)	10′ 10″ (1004)	9′ 4″ (3118)			
		11′ 10″ (2810*a*)	10′ (2888)			
			10′ 3″ (3228)			

Bone Beads

Bone beads have been found. Five of these are globular in shape and have a diameter varying from ½ inches to ¼ inches.

928	Sq.	I (4)	14 ft. 2 in.
2457	Ex.	II (8)	14 ft. 2 in.
3145	Pit.	II (4)	17 ft. 8 in.
4168	Ex.	III (5)	13 ft. 7 in.

Bead 928 is very crude and not well rounded. 3145 from the same layer (Bahmani period) is carefully finished and bears a very fine polish. No. 4168 is partly broken and shows a calcined white core. 2457 is considerably blackened by age. Besides these four smaller specimens apparently made of bone (1245, 100, 4180 and 2270) have lost their original shape but appear to have belonged to the common globular variety.

1100	Ex.	IV (3)	7 ft.
1245	Sq.	II (4)	9 ft. 6 in.
2270	Ex.	II (7)	20 ft. 4 in.
4180	Pit.	II (5)	22 ft.

To this class also may belong a long cylindrical bead with an extremely small aperture, about ¼ in. in length and hole scarcely 1/40 in. in diameter. (No. 678) recovered from Sq. I, Layer (4) depth 13 ft. 2 inches. All these beads have a whitish appearance like shell.

Besides the common globular variety the following types of bone beads have been recovered.

No. 4193 is flat disc bead with a annular hole and was recovered from the lower levels on the floor of the rooms in Sq. II and therefore belongs to the Sātavāhana period. Layer (7). Depth 27ft.

This is yet the only disc bead of bone found in the excavations.

The following specimens, Nos.

2374	Sq.	II (5)	12 ft. and
2390	Ex.	II (8)	20 ft. 6 in.

are two broken halves of cylindrical beads. Both of them probably belong to the Śātavāhana period. A complete cylindrical bead of bone (No. 1598) occurred in the earlier levels attributable to the Bahmani period, in Ex. V, Layer (3) at a depth of 4 ft. 6 in. From the scratches left near one of its edges it can be said that it was sawed from the long bones of some animal or a bird, as the bone is flat on one side and convex on the other.

A beautiful toggle has been prepared from a solid cylindrical piece (Bead No. 4249) recovered from Pit. II, Layer (8) depth 24 ft. 6 in. This piece is attributable to the Śātavāhana period.

A curiously shaped spacer of bone, (No.1014) shows that it was turned on the wheel and has two medial ribs in prominent relief. The upper half of this is rounded while the lower one has a pointed end under a butt end. This bead was found in Sq. II, Layer (4) depth 10ft. 10 in. and probably belongs to the Bahmani period.

(v) BANGLES

Two kinds of bangles were found. Hundreds of pieces of glass bangles were recovered from layers (3) and (4), whereas a few of *śaṅkha* (chank shell), lac, bone and ivory were also obtained from these and the lowermost layers, assignable to the Sātavāhana period.

BAHMANI BANGLES

Glass Bangles

Not only it is interesting to discover a rich variety of glass bangles, but it is worth noting that there was a bangle industry, probably located on the mound we have excavated. For beside numerous pieces of complete bangles, a good quantity of glass wires and glass slag and ashes mixed with lime, and traces of a kiln were found in different parts of the excavation. (See Pl. XXVII, B.)

Bases of Classification

The collection is classified into types according to the colour, shape and technique Thus we have:

I. *Thin monochrome*

(A) Thin or medium, monochrome, 'solid' translucent in two 'layers', lower yellowish white, upper in the principal colour.
Sub-types, and number of sizes listed.

(*a*) Black. $I\overset{A}{a}_1$–$I\overset{A}{a}_9$ (It has no lower whitish band). In cross section it is square rather than round. The largest variety of sizes have been available in this type.

(*b*) Yellow. $I\overset{A}{b}_1$–$I\overset{A}{b}_3$. All usually round on the circumference.

(*c*) Green. $I\overset{A}{c}_1$–$I\overset{A}{c}_3$. All usually round on the circumference

(*d*) Brown. $I\overset{A}{d}_1$–$I\overset{A}{d}_4$. All usually round on the circumference.

(*e*) Dark Green. $I\overset{A}{e}_1$. All usually round on the circumference.

(*f*) Dark or Navy Blue with various shades. $I\overset{A}{f}_1$–$I\overset{A}{f}_6$. All usually round on the circumference.

(B) With very thin border.

II. *Thick monochrome*

(A) (*a*) Round thick monochrome, light or greenish blue. $IIAa_1$–IIa_4.
(*b*) Semi-round. II Ab_1–II Ab_3.

(B) Flat thick monochrome, brown. IIB.

(C) Round or flat with raised central ridge. IIC_1–IIC_2.

(D) Broad with concentric rings and beaded circumference. IID_1–IID_3. Pl. XXXVI, 8.

(E) Broad with interlaced body and beaded circumference. IIE_1–IIE_2. Pl. XXXV, 7.

(F) Thick, with grooves on circumference.
IIF_1–IIF_5 (i Very broad, ii Medium, iii Small).

III. *Polychrome*

(A) Semi-thick, flat, with two or three colours (green or brown and yellow, brown, yellow and green) in very thin layers on the circumference. $IIIA_1$–$IIIA_8$. Pl. XXXVI, 10, 11, 15.

(B) Semi-thick, flat, with spots on yellow background on the circumference. IIIB. Pl. XXXVI, 14.

(C) Thick and rounded, bluish green, with green and yellow oblique patches, between yellow bands. $IIIC_1$–$IIIC_3$.

(D) Broad with concentric rings of different colours and beaded circumference. $IIID_1$–$IIID_6$. Pl. XXXVI, 7, 9.

(E) Thin, consisting of two layers, the upper is very thin in oblique bands. III E_1–E_5. Pl. XXXVI, 12 and 16.

(F) Semi-thick with grooves on the circumference marked by oblique bands. III F_1–III F_4. Pl. XXXVI, 1–6.

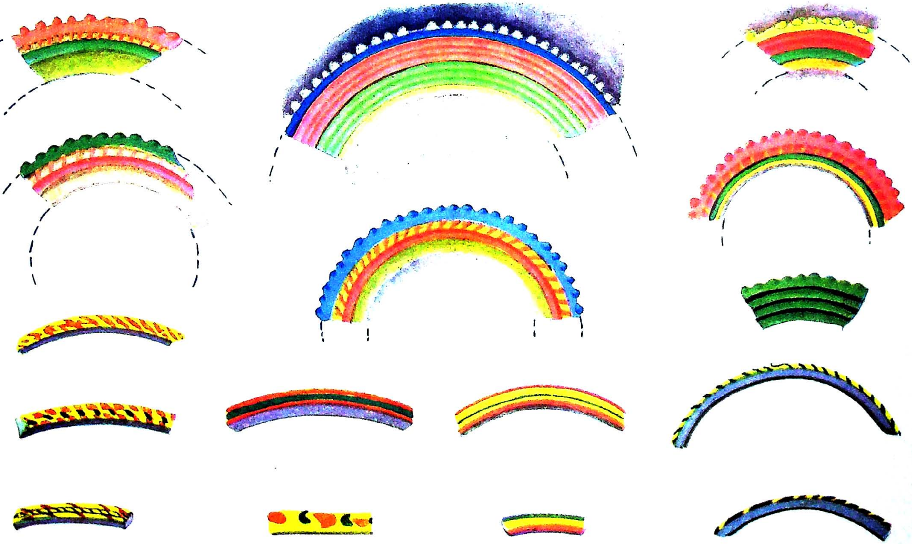


PLATE XXXVI: POLYCHROME GLASS BANGLES IN COLOURS *(facing page 116)*

IV. *Thin or very thin, with applique design on monochrome body.*

(A) V–design. IVA
(B) X or I or II—design. IVB
(C) Zigzag line. IVC_1–IVC_2

No. 178. Half of a thin, convex-faced bangle, shining black or dark blue with applique design of two vertical strokes and cross in green and lemon-yellow colours respectively. Ex. III K/30, (3), 4′–10″.

V. *Incised on face with cross and vertical strokes on monochrome body.*

The specimen is slightly more translucent than all the rest, and may be modern. But the decoration can be traced back to similar decoration on bone and ivory specimens. (See decoration on bone bangles.)

VI. *Facetted*

(A) Convex, but facetted circumference (VIA).
(B) Flat and facetted circumference (VIB).

VII. *Close oblique grooves on round monochrome body.* (*VII.*)

VIII. (A) Thick, rounded, convex body with fused bands in two colours, with alternating twists (VIIIA). Pl. XXXVB.
(B) Thick convex body with raised top and side grooves in oblique twists (VIIIB).

IX. *Semi-thick, rounded body with elongated yellow and white ovates on black body.* (*IX.*)

ŚĀTAVĀHANA BANGLES

Only three pieces of glass bangles were found from the Śātavāhana layers. Both in quality of the glass and type these differ from the Bahmani bangles. The Śātavāhana specimens are made out of a bluish, almost transparent glass, which is identical with that noticed in collared beads of similar glass. It is possible that both are foreign, perhaps Roman.

No. 2829 Small piece of a thin, broad, bangle of smooth bluish glass, with concave surface and out-turned edges, almost transparent. Sq. I, A/20, (8), 20 ft. 8 in.

No. 3047 Large piece, otherwise identical with No. 2829. Fig. 23 Ex. II, A/25. (11), 24 ft. 6 in.

MISCELLANEOUS

Bone and ivory bangle pieces were found from MD I and II. Some of the former may belong to the Śātavāhana period, while nothing certain can be said about those recovered from the ash pit. All the specimens from MD II come from the Bahmani layers and should belong to that period.

Stylistically these bangles fall into the following types:

I. Plain.
II. Decorated.

I Plain

(i) Piece of a plain bone bangle. MD II, Ex. II (3).

(ii) No. 50 Plain bone or ivory bangle piece. MD I, Sq. I, iii, 6 ft. 8 in.

(iii) No. 202 Plain conch-shell bangle piece. MD I, Ex. I-I'a (1)d, 14½ ft.

(iv) No. 245 Plain conch-shell bangle, convex top and flat sides. Ex. 1 (1*d*.) Ash pit. 15 ft.

II Decorated

(i) Piece of a bangle of fossilized (?) bone with criss-cross incised decoration, in two shallow grooves on the circumference. MD II, Ex. II, (3).

(ii) Piece of a thin bangle with incised decoration on the circumference. MD II, (3), 2 ft. ½ in.

(iii) Bangle piece, bone, with thin raised bands on sides, and diamond and oblique stroke decoration. MD II, Sq. II (4).

(iv) Bangle piece, bone, broad, round face with raised border. MD I, Ex. I, 16 ft.

(v) Thick piece with incised grooves and relief decoration within them on the circumference. MD I, Ex. I, 16 ft.

(vi) Bangle piece, bone, broad, flat on the circumference with two incised parallel grooves with double triangle or 'axe' design half of which is hatched by vertical strokes. MD I, Ex. I, I'G, Ash pit. 11 ft. Pl. XXXIV, A, 9.

(vii) No. 186 Small, flat, with notches. Ex. I, I'a, (1)d, 11 ft. 6 in. Fig. 23.

(viii) No. 296 Piece of conch-shell bangle, medium size, convex in section, circumference decorated with two parallel grooves and narrow triangle ornamentation, half of some triangles are vertically hatched as in No. 185. MD I, Ex. I, II a-5, (3a). 9 ft.

(ix) No. 88 Piece of conch-shell or ordinary bone bangle. Decoration as in No. 296. Sq. I, (3*a*). 10 ft.

(x) No. 165A conch-shell bangle, decorated partly as in Nos. viii-ix, the difference being that the triangle are not joined but appear separate having minute holes due to eating away of the material (?). Ex. I, I'a (1)d, Ash pit, 7 ft. Pl. XXXIV. A. 2.

GLASS FINGER RINGS

Layer 3 and at times layers 4 and 5 also yielded some specimens of glass finger rings. Like the bangles they fall into various groups, according to the colour and design of manufacture.

I Simple monochrome

(*a*) Thin, round in section.
(*b*) Thick and convex in section.

II Simple monochrome but the circumference corrugated.

III Polychrome.

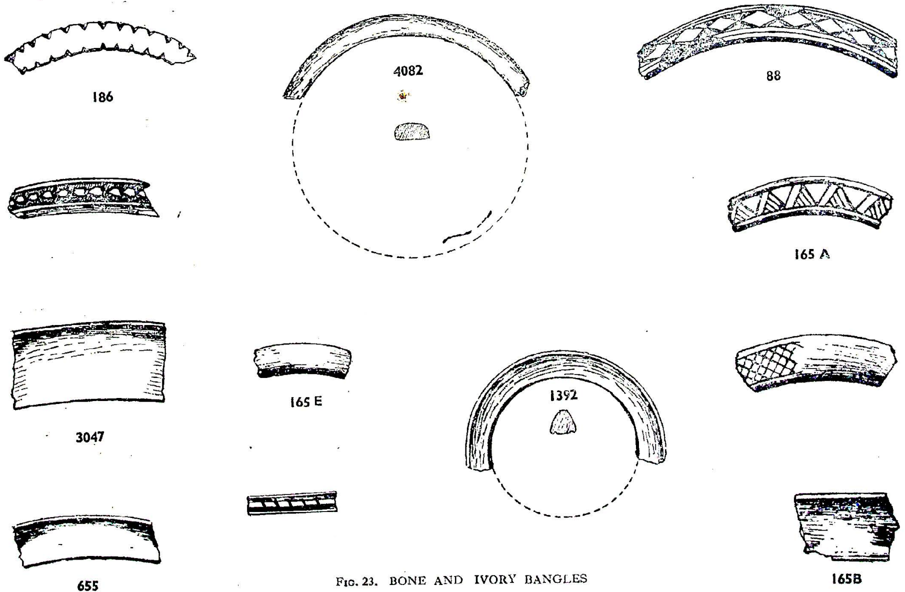


Fig. 23. BONE AND IVORY BANGLES

IV Lustrous (known as "Reshami" having silk-like finish).

I *Simple monochrome*

Ia_1 Half of a semi-thick, round, black glass ring.
Ex. II, (3) 11 ft.
cf. also No. 767 (*a*), Sq. IV, F/25, 9 ft. 6 in. and
No. 2258, Sq. IV, F/20, 7 ft.

Ia_2 Complete black glass ring, flat in section, made by joining the wire.
No. 1043, Sq. II E/10 (4), 10 ft. 6 in.
No. 767, Sq. II E/10 (3), 8 ft. 8 in.
No. 914, Sq. II (3), 6 ft. 6 in.

Ib Half of a thick yellow glass ring.
No. 1643. Ex. III, K/20 (3), 5 ft. 2 in.

No. 2733. Piece, perhaps of a small black glass ring with a central knob as in gold or jewelled rings. Sq. IV, F/30 (4), 9 ft. 6 in. Pl. XXVII. A. 6

II *Simple monochrome corrugated*

II 7 Complete black glass ring with shallow grooves but vertical corrugations across the curvature. Pl. XXVII. A. 3
1563. Sq. IV, K/20, (3). 4 ft. 6 in.
1060. Ex. V, B/60, (3), 3 ft. 2 in.
1543. Sq. I, C/5, (5), 17 ft. 2 in.

II 8 Half of a thick, pale brown, glass ring with corrugations but more regularly made than in II 7. Pl. XXVII. A. 5.
No. 306, Ex. IV, G/35, (3), 5 ft. 4 in.
cf. 1543, Sq. I, C/5 (5), 17 ft. 2 in.

II 9 Half of a bluish green ring with well regulated grooves.
No. 109, Sq. IV, F/35, (3), 5 ft.

II 10 Half of a light blue finger ring, with well regulated grooves
Pit II, (3), 12 ft.

Polychrome

III 11 Small, complete glass ring with yellow and red interlaced bands on white surface.
No. 1140, Ex. V, A/35, (3), 9 ft.

III 12 Piece of a small finger ring in two layers. The upper layer on the circumference as in bangle type (III E) in alternate colours green, blue, and yellow. Pl. XXVII. A. 10.

Lustrous

IV One-fourth piece of a large thin ring of white lustrous glass.
No. 3007, Sq. IV, F/35 (3), 7 ft. 4 in. Below wall of period II.
Also No. 1308, Sq. IV, F (3), 8 ft. 8 in.
No. 2091 Sq. IV, E/25, (3), 7 ft. 2 in.
No. 1667, Ex. V, I/50, (3), 5 ft. 10 in.

BONE RING

Half of a bone ring.

No. 3094, Junction of Sq. II and IV, F/20 (4), 11 ft. 2 in.

(vi) TOOLS AND WEAPONS

IRON OBJECTS

ARROW-HEADS

Eleven arrow-heads were found. These are mostly from layers 3 and 4 which are of the Bahmani period, whereas only one specimen (No. 3418) was from layer 6, which is probably late Śātavāhana (c. A.D. 300).

Typologically the specimens can be grouped into the "leaf-shape" and triangular varieties all having a short tang, but no socket. This is surprising, because, according to PETRIE,[1] a socket implies the use of a wood shaft, and a tang that of a reed. Thus we have to suppose that these arrow-heads had reed shafts. As to the "leaf-shape" type, it was very widespread,[2] occurring as it does in Egypt, Knossos (Crete), Hungary, and Sweden from very early times.

Among the leaf-shape, as well as the triangular types, however, slight differences are observed, as the detailed description will show. (Fig. 24)

1017 Leaf-shape head, but having bulging sides, and rounded top, and a ring round the tang.

MD. II, Sq. I, B. (4). 14 ft. 5 in. cf. slightly No. 9 Knossos. PETRIE, *Tools*, XLI.

2194 Leaf-shape or rather triangular head with pointed end and a narrow tang.

MD. II, Sq. II, J 10, (5), 11 ft. 6 in. cf. slightly with No. 151, PETRIE, *Ibid.* XLI.

3098 Leaf-shape head. Sides slightly bulging, elongated and with a medium size tang.

MD. II, Sq. II, F/15, (5), 12ft. 2 in. cf. La Tene type, iron, No. 19, PETRIE, *Ibid.*.

878 Triangular head, tip of point, and tang-end broken.

MD. II, Sq. II, H/20, (3), 8 ft. 6 in.

1943 Small leaf-shape head, pointed tip.

MD. II, Ex. V, C/65, (3), 5 ft. 8 in.

1008 Broad leaf- or heart-shape head, with a broad flat tang, having a marked waist.

No exact or near parallel in PETRIE.

919 Semi-broad, leaf-shape, arrow-head, with a broad, flat tang with a marked waist.

[1] *Tools and Weapons*, p. 33–34. [2] *Ibid.*, p. 34.

974 Elongated leaf-shape head, with a thin tang, now broken.

MD. II, Sq. IV, E/50, 4 ft. 6 in.

cf. almost identical shape PETRIE, *Ibid* pp. 34-35, XLII, No. 248, 250. These specimens are from Egypt, where they seem to have been introduced after 596 B.C., after the Scythian invasion.

1814 Half of an elongated and leaf-shape head (blade broken in two.) When whole, probably similar to No. 974x.

MD. II, Ex. V, B/50, 6 ft.

973 Half of an elongated leaf-shape head, tip not pointed.

MD. II, Sq. IV, I/25, 8 ft. 6 in.

3418 Elongated, straight sided and triangular type of head, tang-end broken anciently. Tip not much pointed.

MD. II, Sq. J/10, 14 ft. (Late Śātavāhana) ?

cf. to La Tene type, PETRIE *Ibid*, pl. XLI, Nos. 103, 104.

1081 Tiny two pointed and socketed pick-axe or spade.

MD. II, Ex. IV, K/45 (3), 10 ft. Pl. XXIX. A. 6, and Fig. 28.

HARPOONS

Two specimens described below seem to be harpoons. It is surprising to see these in India, because the earliest recorded specimens in metal are known from Egypt, but rarely were they to be found in Europe. PETRIE has noted only two from Italy.

168 a small iron harpoon, single barb on top.

MD II, Ex. II, B/46 (3). 7 ft. Bahmani. Fig. 28.

168x slightly bigger than No. 168.

Label lost while cleaning, but most probably from MD. II, Ex. II, layer (8). Dark yellowish earth. Śātavāhana.

4063 Leaf or spatula-like, with point slightly bent, blade; tang-end broken anciently.

MD. II, Junction of Sq. II and IV, G/20. 16 ft. 10 in. Late Śātavāhana (?). Fig. 28.

KEYS

1674 Key, with a single ward, and hole in the shaft, ring slightly broken.

MD. II, Sq. I, A/20 (5). Bahmani. Fig. 28. (Such keys known from Roman times, PETRIE *op. cit.* p. 60, pl. LXXVI).

217 Key with a single ward, and large thick ring.

MD. II, Sq. II, B/25, (3), 4 ft. Bahmani. Pl. XXIX. A. 7. and Fig. 28.

HOOKS

1626 Part of a large hook.

MD. II, Sq. I, 0/5, (5), 18 ft. 3 in. Bahmani-Śilāhāra. Fig. 28.

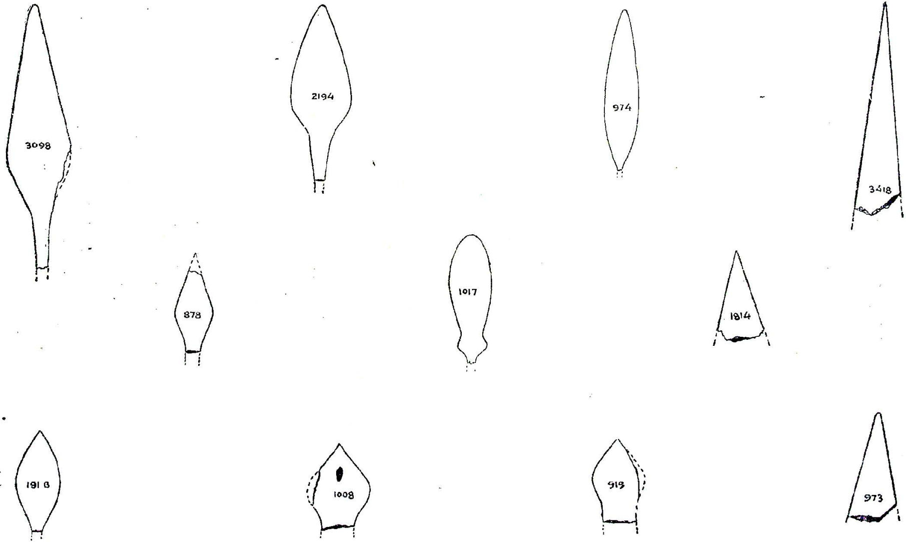


Fig. 24. BAHMANI-ŚILĀHĀRA AND POST-ŚĀTAVĀHANA IRON ARROW-HEADS

4059 Pruning hook, Bill-hook or Sickle (?), with a tang, now broken.
MD. II, Ex. IV, N/35 (6), 14 ft. Late Śātavāhana. Fig. 28. cf. PETRIE, *op. cit.* p. 47, pl. LVII, particularly No. 40.

4974 Small sickle, with a curved handle (tang).
MD. II, Sq. IV, E/35, (3), 8 ft. 3 in. Pl. XXIX. A. 4.
The handle is cf. to PETRIE, *op. cit.* pl. L.V. NO. 11 from Egypt.

PINS

2215 Pin with a solid loop, pointed end broken.
MD. II, Ex. II, A/5, (7), 19 ft. 11 in. Śātavāhana. Fig. 28.

3129 Pin with a closed loop, pointed and broken.
MD. II, Sq. IV, H/30 (4). 8 ft. 8 in. Below wall of Period II. Śilāhāra.

KNIFE

2883 Front part of a broad bladed dagger or knife.
MD. II, Sq. II, E/15, (4), 8 ft. 9 in.

2131 Hunting knife, with a slightly curved blade and a tang.
Sq. I, below Kitchen, layer (8) 19 ft. 10 in. Pl. XXVIII.A and Fig. 26.

NAILS

A large number of iron nails were collected, particularly from the debris of the Śātavāhana houses, forming layers 6 and 7. A few were also found in the Bahmani layers.

BAHMANI NAILS

No. 1051 Nail with round flat top.
Sq. I, (4), 4 ft. 11 in. Fig. 25.

No. 831 Nail with flat square top and tapering sides.
Ex. IV, (3), 10 ft. 2 in.

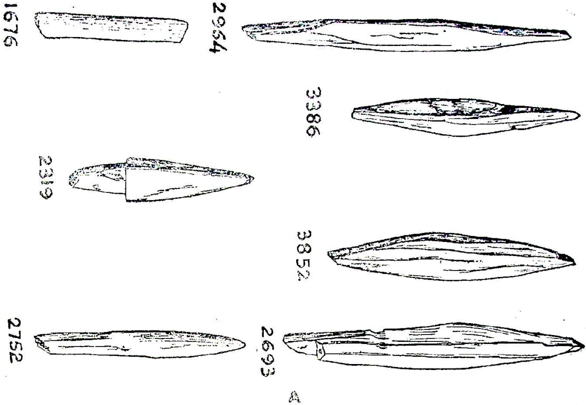
No. 295 Nail, thin, with broad top.
Ex. V, (2), 4 ft. 8 in.

ŚĀTAVĀHANA AND POST-ŚĀTAVĀHANA NAILS

These show certain definite characteristics, which distinguish them from the later and modern types. Amongst the former (Śātavāhana) two or three types are available. Some of these are here described and illustrated.

(A) Small nail with square sides, a tapering point and bent top.

No. 1626x. Sq. I, (5), 18 ft.	No. 2451. Sq. II, (5), 13 ft.
No. 1548. Sq. I (5), 11 ft. (Fig. 25)	No. 3465. Sq. II, (6), 15 ft.
No. 1691. Sq. I (7), 13 ft.	No. 1460. Ex. II, (7), 23ft.



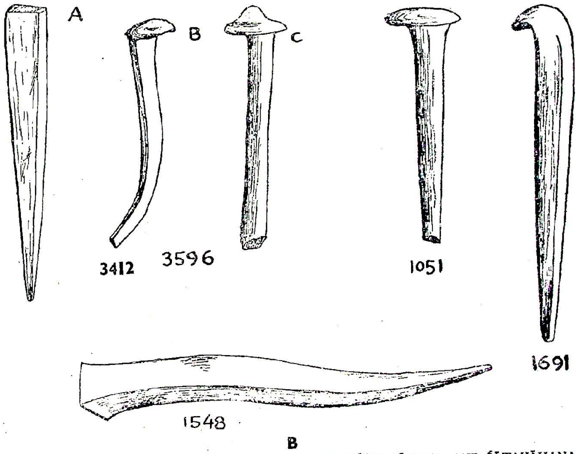


FIG. 25. A. ŚĀTAVĀHANA BONE POINTS. B. POST-ŚĀTAVĀHANA AND ŚĀTAVĀHANA IRON NAILS.

(B) Short thick nail, square sides with the *top made by slightly raising* the side.

No. 3190 (5), 12 ft. 2 in.

(C) (i) Nail, thin, square sided, projecting flat top, point turned.

No. 3412, Sq. II, (6), 14 ft. Fig. 25

No. 3630, Ex. IV, (6), 14 ft.

(ii) Nail with straight round body, projecting top all round.

No. 3596 (b), Sq. II, H/5, (6), 15 ft. 5 in. Fig. 25.

BONE POINTS

These were all found in Sq. I, Ex. II and Pit I and II as we began to dig in the lower most layers attributed to the Sātavāhana period. Below are recorded some of the important pieces, out of a large number collected and noted on the spot. These are called '*surasā-se*' in Marathi and are used in modern times for fixing wooden joints and generally made of small wooden pegs.

No. 2180. Half of a bone point.

Sq. I, B/5, (9), 19 ft. 11 in.

2334 only a tip. Sq. I, B/5, (9), 22 ft. 1 in.

2922 Well preserved piece, of a two-ended, flat, lozenge-shaped bone point.

Sq. I, (7), D/20. 22 ft. Pl. XXXII. B. 6.

No. 3160-1, Well preserved, rounded and flatish two-ended piece.

Sq. I, A/15 (8), 22 ft.

No. 3247 Well preserved, roundish, double pointed piece.

Sq. I, C/15 (9), 23 ft.

No. 2752 Single pointed, round section in front and half of the length, rear half thinner and flaked obtusely.

Ex. II, B/45 (9), 22 ft. Pl. XXXII, B. 2. and Fig. 25.

No. 2965 Perhaps double-pointed, lozenge-shaped, one end broken.

Ex. II, A/45, (10), 23 ft.

No. 2964 Double-pointed, lozenge-shaped.

Ex. II, A/45, (10), 23 ft. Pl. XXXII. B. 5 and Fig. 25.

No. 3052 Double-pointed, ends broken.

Ex. II, A/45 (10), 24 ft. 8 in.

No. 1676 Not a point, one end is spatula-like, the other broken.

Pit. I, (6), 23 ft. Pl. XXXII. B. 3 and Fig. 25

No. 2641 Group of four double-pointed bone points (?) All lozenge-shaped, with one slightly or fully broken.

Pit. I, 26 ft. 2 in.

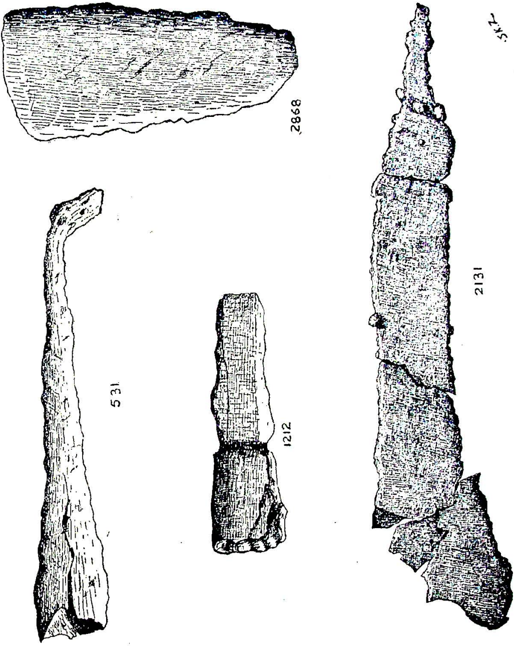


FIG. 26. BAHMANI-ŚILĀHĀRA IRON OBJECTS
Excepting No. 2131 which is SĀTAVĀHANA

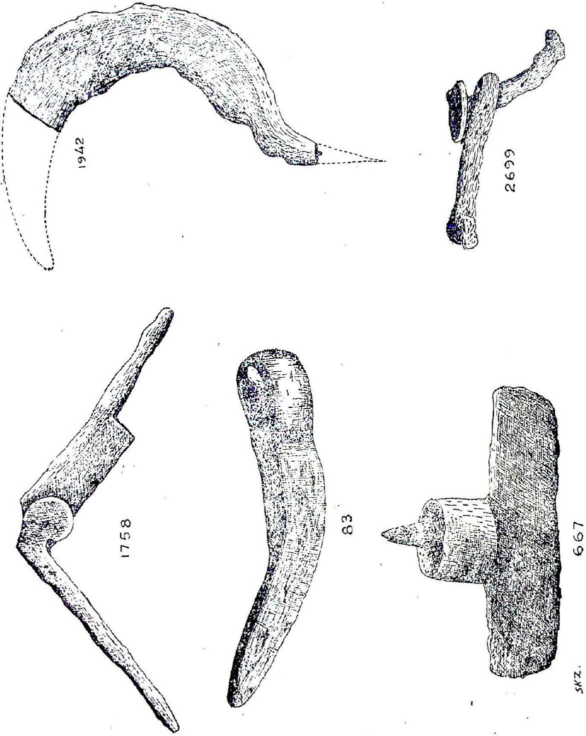


FIG. 27
BAHMANI-ŚILĀHĀRA IRON OBJECTS
Excepting No. 2699 which is ŚĀTAVĀHANA

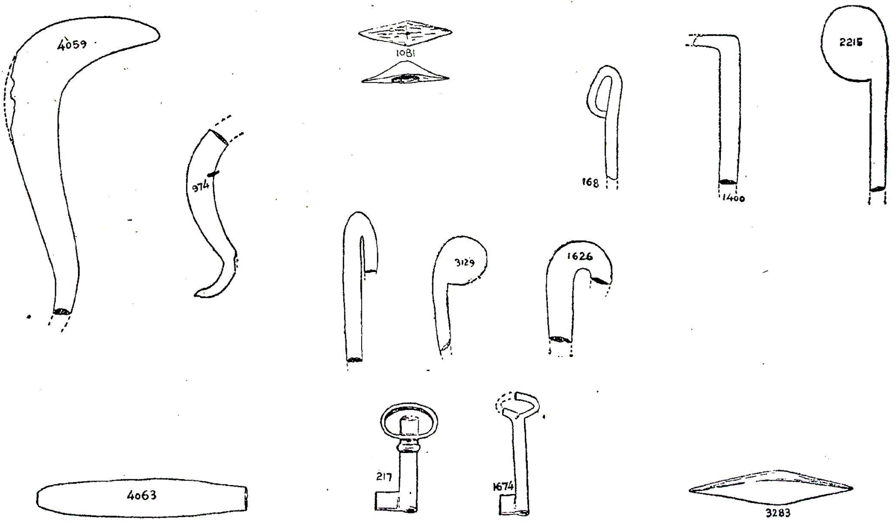


Fig. 8 BAHMANI-ŚILĀHĀRA IRON OBJECTS

(vii) OBJECTS OF STONE

About four saddle querns, three rotary querns, four mortars and one complete and several broken pestles were found in Mound II at Brahmapuri. One saddle quern and the pestle found between its legs belong to the Sātavāhana period. All the rest to the Śilāhāra-Bahmani period.

All the rotary querns were found in the Śilāhāra-Bahmani layers.

Geologically the saddle querns appear to be of trap or basalt,[1] which can be had locally, while some rotary querns are of the same material, and some of sandstone.

ŚĀTAVĀHANA QUERN AND PESTLE

No. 1974 Saddle quern (*Pāṭā*) on four legs. Found intact, but broken in three pieces, while removing, as it was burnt originally and had thin cracks. Length $17\frac{3}{4}$ in. height $7\frac{2}{8}$ in. width 9 in. The legs are tapering: 4 in. height, 2 in. broad at top and 1 in. at base. One end of the quern is projecting, while the other is at right angles with the legs. The quern does not seem to have been much used, as it has a very gentle slope in the middle. The surface is almost smooth, slightly pecked, and has a few natural holes also. From Sātavāhana kitchen, Sq. I, layer 7, lying towards the left of the *chūl*, associated with red potsherds of an ovate, spouted, and narrow necked vessel.

Pestle (*Varavaṇṭā*), length $11\frac{3}{4}$ in. diameter $3\frac{1}{8}$ in. Trap or basalt. Slightly tapering ends, from which small flakes have peeled off. Surface smooth and polished (by use?), showing, however, signs of pecking as well as natural cavities. Pl. XXXI, C.

ŚILĀHĀRA QUERNS

(No. 2) Saddle quern. Complete. Length $14\frac{7}{8}$ in. height 4 in. width 9 in. Trap (or sandstone?). The quern has a narrower flat base (length 9 in. width 5 in.). Surface coarse, having natural holes, used with a slope towards the centre, about $\frac{1}{2}$ in. from the general surface. The base has a very coarse surface, with oblique chisel strokes. From Sq. II, layer 5, at 12 ft. depth.

BAHMANI QUERNS

Some broken parts of saddle querns of this period were found from Sq. IV and Ex. III-IV, layer 3, associated with foundation walls of mud and roughly dressed stones. They are of trap or basalt. Since these are similar to the Śilāhāra quern described above, their detailed description is not given.

ROTARY QUERNS

No querns of this period from the Sātavāhana layers.

[1] Expert examination was not possible, as the specimens were not sent to Poona.

BAHMANI ROTARY QUERNS

No. 3539 Lower stone of rotary quern. Reddish calcareous, ferruginous trap (?) or grit. Height $1\frac{7}{8}$ in. diameter $13\frac{7}{8}$ in. of socket $1\frac{1}{2}$ in. Depth 2 in. The quern does not appear to have been much used. The surface is coarse and slightly broken on one side. Sq. III, D-30, 7 ft. 4 in. layer 3, associated with pavement of mud bricks.

No. 3507 Part of upper stone of rotary quern. Grey sandstone (?). Height $3\frac{3}{8}$ in. Diameter (originally when whole 16 in.). The stone has a raised border, about $1\frac{1}{2}$ in. in width. Freshly chiselled. Ex. IV, depth 7 ft. layer 3.

MORTARS

All the mortars were found in the Bahmani and Śilāhāra layers, and none in the Sātavāhana.

BAHMANI MORTARS

3506 Mortar (*Ukhal*) with rounded bottom. Trap. Height $10\frac{1}{4}$ in. width 12 in. diameter of socket 6 in. and depth 5 in. It has a flat surface, and slightly tapering rounded base, so that it cannot stand without support, or without being fixed in the ground as was usual. The surface of socket smooth owing to use. Sq. IV, 1 ft. 3 in. layer 3.

No. 3505 Mortar with flat base, length $14\frac{1}{4}$ in. width $13\frac{1}{2}$ in. height, 7 in. depth of socket 4 in. diameter 6 in. Trap. The mortar has a flat base, but the upper surface has a queer shape, the sides are uneven and rough, whereas the socket is smooth owing to use. Sq. IV, 2 ft. 6. in. layer 3.

BAHMANI ŚILĀHĀRA (?) MORTAR

No. 3458 Mortar with a tapering base. Length $10\frac{3}{4}$ in. height $12\frac{1}{8}$ in. width (top) $9\frac{1}{2}$ in. base $4\frac{1}{2}$ in. Depth of socket 7 in. diameter $6\frac{1}{2}$ in. Trap (?). The mortar has a square surface with a tapering base. The surface is smooth, the sides uneven and coarse and the socket smooth because of use. Sq. IV, 6 ft. 9 in. layer 3.

ŚILĀHĀRA MORTAR

No. 3452 Mortar with a tapering base. Height $12\frac{3}{4}$ in. width 12 in. (on top) and $7\frac{1}{2}$ in. base. Depth of socket $5\frac{3}{4}$ in. diameter outer top $6\frac{1}{2}$ in. and inner at base $2\frac{1}{8}$ in. Trap (?). The socket and some parts of the surface are smooth, the rest uneven and coarse. Ex. IV, 11 ft. 4 in. layer 4; in wall of Period III.

OTHER STONE OBJECTS

No. 922 Fragment of a red sandstone, incised on one face with a lotus, half of which remains.

Sq. I, C/5, (5). Pottery pit. layer 4. Pl. XXX. A. 4. and Fig. 28.

2828 Piece of a rectangular or square slab of black marble. One surface is smooth and polished.

Sq. I, B/20. 20 ft. 10 in.

3708 Broken rim of a black polished stone vessel. On the top there is a receding high neck. Two thin incised grooves on the shoulder. The piece was smoothed on a lathe.

Sq. I (6). Pl. XXX. A. 2 and Fig. 28 above 1308.

1298 Piece of a square or rectangular reddish sandstone having a circle incised in the centre (?) and top of palm-leaf incised in the corner.

Sq. II. G/5. (4), 12 ft. 6 in. Pl. XXX. A. 3 and Fig. 28.

787 Piece of a slatestone, bearing incised leaf marks on the border, and having a shallow declivity in the centre (?)

Ex. II (3) Fig. 28.

458 Piece of a square or rectangular sandstone having incised decoration in two registers. This appears to be a *linga* on the left hand (top) corner with thin incised lines and the Nandi (whose tip of the snout) is seen in the adjoining register, on the top.

Ex. V, G/50 (3), 2 ft. 4 in. Pl. XXX. A. 5 and Fig. 28.

3709 Piece of a red sandstone with incised shallow concentric rings on either face. It appears that there was a raised rim on the (upper) face.

1448 Piece of a pillar having square pedestal, round shaft and round small tang below the square pedestal of blackish chlorite schist. Śilāhāra, Pl. IV. B.

ŚĀTAVĀHANA

2975 Rectangular Bead Mould (?), broken one end, $5\frac{1}{4}$ in. long $\times$ $3\frac{1}{4}$ in. broad $\times$ $\frac{1}{2}$ in. thick, shale, one surface which is smooth has three parallel rows at a distance of about an inch. Each row has now four holes intact. Each hole is about $\frac{3}{8}$ in. sq. having a central round hole, while a longitudinal groove about $\frac{1}{16}$ in. wide and as much deep, connects these squares up. The square holes and the groove were cut out in a slate block. It appears that this mould was used for square flat clay beads. The process would be to press lumps of well-levigated clay into the holes, after having first inserted a thin stick into the longitudinal groove for getting a hole in the bead. This would give a square flat bead, with a raised boss in the centre, with side holes. The process would then be repeated, and another side of the bead would be obtained. By joining up these pieces a fairly thick bead with a ready made hole could be had in a large number in a short time.

Pit. II, 19 ft. 8 in. layer 6. Pl. XXX. B.

INSCRIBED OBJECTS

No. 482 Small fragment of an inscription, about 4 in. $\times$ 1 in. to $2\frac{1}{2}$ in. $\times$ 1 in. The three fragmentary lines in Sanskrit and Devanāgarī script read:

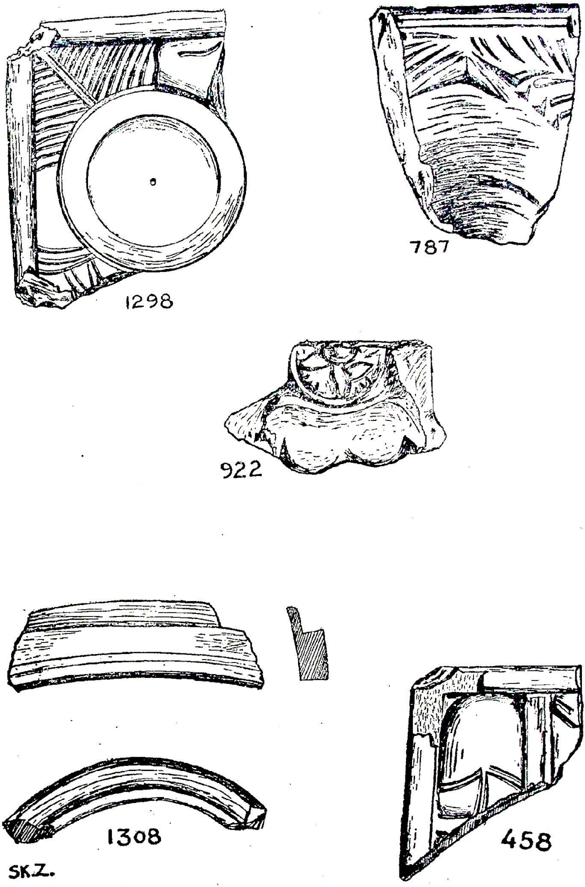


FIG. 29. CARVED STONE OBJECTS

. . . *daleśva(ra)*
(ra?)na śaka varṣeṣu na (va?)
naṁpatiṁ . . .

MD II, Ex. IV, layer 3, below wall of period of II. Pl. XXXI. B.

The record may belong to the Mahāmaṇḍaleśvara Mārasiṁha whose only known record, a copperplate is dated Śaka 980 (A.D. 1058-59).

Another record dated, beginning with Śaka 902, is of the Raṭṭa king Kārtavīrya (of 902) or of Aṅka (Ś. 970).

Since the Brahmapurī fragment mentions Mahāmaṇḍaleśvara and Śaka year beginning with 9, and the script is of the period, it is most probable that the inscription belonged to Mārasiṁha who ruled at Kolhapur and its vicinity.

No. 4284 Terracotta Seal in Brāhmī letters of 2nd century A.D. with a *trisula.*

It reads:

Bhagavato Lājabhaṭṭa sa.[1] Of the venerable or Lord Lā (Rā) jabhaṭṭa. Junction of Sq. I and Sq. II. Pl. XXVI. B. 4.

STEATITE (?) PENCILS

No. 1360, cylindrical piece, whitish, ends conical owing to use. Sq. I. A/5 (5), 18 ft. 8 in. Pl. XXXII. A. 1.

Others are:

663, Sq. II. E/5 (3), 8 ft. 11 in. Rectangular, one end rounded.
1674, Sq. II. K. (3), 6 ft. 6 in. Cylindrical (whitish).
1031, Sq. II. G. (3), 5 ft. 7 in. Thin cylindrical (grey).
1990, Sq. II. (4), 10 ft. Very thin small piece.
2440, Sq. II, (5), F/10. 13 ft.
2683, Sq. II. (4), G/21, 8 ft.
1775, Sq. II. E/21. (3), 6 ft. 10 in. Rectangular with sides and one end rounded.
3130, Sq. IV. A/35 (4), H/35. Flat with rounded sides.
808, Ex. IV. 0/30 (3), 8 ft. 8 in. Small block.
1031, 1/25. (4), 4 ft. 6 in. Facetted cylindrical.
1348, G/60, (3) 6 ft. 2 in. Whitish grey—thick round.
1516, Y/45, (3), very small.
3208, Y/35, (6), 6 ft. 4 in.
4233, G/30, (4) 13 ft. Long grey, rectangular, piece $1\frac{1}{2}$ in.
2170, Pit I. G/35 (4). 7 ft. Very long $2\frac{1}{4}$ in. Rectangular one end round.
1761, Pit II, C/10. 14 in. Round 1/2 Diam. grey.
1969, Pit II, B/ 10. 14 ft. do
2029, Pit II, G/10. (3) 7 ft. 2 in. Yellowish grey.

[1] For suggesting the reading "*Lāja*", we are indebted to Dr. CHHABRA, Government Epigraphist for India.

PART III

CHAPTER IV

GENERAL OBSERVATIONS

THE PLACE OF KOLHAPUR CULTURAL REMAINS IN INDIAN CULTURE

EXCAVATIONS in India have been comparatively few; and these too, not well distributed, until very recently, over different parts of India. Moreover the accounts of many early attempts are not well recorded. So it is not possible to establish proper links between the objects excavated at Kolhapur and elsewhere in India, and give a final verdict at this stage. Some cultural affinities and local peculiarities however stand out and it is thought desirable to notice them at this place, provisional though they might be.

Of the earliest well established cultural phase at Kolhapur, we first take the houses. Our excavations, though on a small scale have shown clearly the method of constructing the houses.

Two or more sides of a house were raised on a foundation prepared by embedding large pebbles, in two layers at least, of sticky clay. The latter was either *regur* or brownish river mud. It has not been possible to ascertain whether these foundations were made by cutting a trench in the earth. Over these clay and pebble bases the brick walls were erected. In order to strengthen the building, and to have a hard level surface, the intervening space, between the four walls, was at times covered with roughly dressed stone slabs, and the whole filled up with layers of sticky clay, mixed with lumps of laterite upto a height of three to four feet above the foundation.

It appears that this method of preparing the foundation was purely a local feature, and probably confined to the riverine tracts of the Deccan.[1] The raw material—pebbles and sticky clay—as the cement—was made most of. Lime mortar, cement and roughly dressed stones have now replaced these, but the basic method is the same, *viz.*, cutting a trench in the earth and raising a stone or brick wall over it, or where the building is constructed on a rocky surface to lay the stone foundation walls and fill up the hollow space with clay and other debris. Perhaps 100 or 200 years ago the pebbles and sticky clay might have still been used.

The method described above seems to be a purely Deccan feature. Elsewhere in India slightly different methods and different materials,

[1] It would be indeed interesting to know what was the method used at Paithan on the Godavari, Karad on the Krishna and other early cities in the Deccan.

depending upon the nature of the earth and availability of the raw material, are met with.

In the sandy plains of Sind, where stone was not easily procurable, at Mohenjodaro, for instance, bricks were usually laid in mud and occasionally in gypsum mortar, with foundations and in-fillings of sun-dried bricks.[1]

In the adjoining regions of Rajputana at Sambhar,[2] in the present Jaipur State, in a site probably of the early Christian era, low foundation-walls were built of roughly cut blocks of Jhajhra stone, and over these were raised the brick walls. The floors enclosed by them were filled up with thick layers of fine sand. At another site, Rairh, in the same region, a thick layer of iron refuse was laid under the foundations to keep off the white ants etc.[3] This is a very wise precaution in sandy areas, where this pest can cause incalculable damage in no time.

Where stone could be had easily it was turned into proper use. The foundation or lower parts of the wall were made of irregular blocks of slate in the N.W.F. province at Taxila, right from the Mauryan period, or other large blocks of roughly dressed stones, and the upper parts were often built of mud.[4]

So also at Besnagar, ancient Vidiśā in Central India. The foundation of the famous pillar of Heliodorus was very securely prepared. It extended to a depth of nearly 6 ft. beneath the base of the shaft and consisted of heavy slabs of stone and layers of laterite, murrum, black earth and concrete well rammed. The pillar itself rested directly on the uppermost of the slabs, wedges of metal and stone chips being driven in between the two to maintain it in the perpendicular position.[5]

At Sanchi, which is close by, the Aśokan column was found to rest directly on the bed rock, and was maintained in position by a packing of boulders enclosed in retaining walls.[6]

The foundation walls of the Vihāra which was excavated in 1935-36 were constructed of hammer-dressed blocks of stone laid in clay and sometimes in clay mixed with pounded bricks.[7]

In the Gangetic plains, where stone was scarce, thick brick-walls of the Mauryan town at Bhita are seen to rest on an earthen rampart.[8] At Sarnath[9] the Dhameka Stupa, the upper part of which was of

1 *ASIAR* 1926–27, 51–52. Since the lowermost stratum has not been dug, owing to subsoil water, it is not possible to say how the foundations of the first buildings were laid. Most of the later were raised on the debris of the earlier structures.

2 Sahni, *Excavations at Sambhar*, 27.

3 Puri, *Excavations at Rairh*, 13.

4 *ASIAR* 1924–25, 47 and 1908–09, 42.

5 *ASIAR* 1913–14 Pt. i, 19.

6 *Monuments of Sanchi* Vol. II, Pl. VII.

7 *ASIAR* 1936–37, 85.

8 *ASIAR* 1911–12, 40.

9 *Ibid.* 1904–05, 65 and 73.

stone, and the lower of bricks, was raised on a foundation of bricks embedded in clay. The stones were laid dry, but were held together in each layer by means of iron clamps.

How they solved the problems still further east, in the sandy alluvium of Bihar, studded with ponds and lakes, is beautifully illustrated by the several types of buildings—monasteries, and chaityas—unearthed at Nālandā. Foundations of some buildings have been found at a depth of over 12 ft. from their ground level. These were then filled up with alternate layers of sand and bricks.[1]

Unusual precaution was taken in the construction of Chaitya site No. 13. "The area comprising the main shrine seems to have been excavated to a depth of 12 ft. below the then ground level for the purpose of laying the foundation of the Chaitya which rests on a 5 ft. thick layer of sand. The foundation consists of 23 courses of bricks in sand, and 83 courses of bricks in mud mortar up to the floor level of the shrine which was approximately 18 ft. above ground level. On this basement were raised the walls of the shrine chamber which were in double section and were 33 ft. in breadth. In order to strengthen the basement and to enable it to resist the outward thrust of the huge mass of masonry over it, the *pradakṣiṇāmārga*, 25 ft. wide was excavated down to the virgin soil and cross walls were built in it at intervals of 24 ft. For . . . the basement with the outer walls of the *pradakṣiṇāmārga*, three compartments thus made being filled in with alternate layers of pure earth and concrete mixed with earth."[2]

Nowhere, it would appear from the above review of the methods of laying the foundation of buildings in different parts of India, the method or better the materials used at Kolhapur[3] have been found to be used. For in each region the masons put the raw material which could be readily had to the best use.

Only in certain cases, as in the construction of structures like the Dhameka Stupa at Sarnath, or the large wooden palisade at Pataliputra, or the pillar at Besanagar, iron and other material were used for strengthening the foundations.

Among the remaining constructional features there is nothing to note about other aspects of masonry. The wall proper was built of burnt bricks. These were laid in a thin layer of mud mortar, in alternate rows of headers and stretchers the joints of which usually never met. In modern engineering it is called the English bond.

Whether the use of wedge-shaped bricks was known or not cannot be said for certain. For we did not come across any instance of the kind.

The walls were probably raised to a height of 12 ft. to 15 ft.

1 *ASIAR* 1922–23, 105; 1930–34, 136 and 1934–35, 39.

2 *Ibid.* 1936–37, 43.

3 At Valasna, a village lying right on the river Sabarmati, N. Gujarat, entire walls of huts have been made of river pebbles, which can be had in plenty.

The plans of the houses unearthed so far are different from what is known regarding them from other parts of India at that period. At Kolhapur it appears a house consisted of three small rooms and a verandah or long passage running at right angles to these. These were covered by a sloping roof, made of bamboo or wooden raftars, on which were fixed with iron nails flat, convex ended and grooved pottery tiles.

A narrow regular (or irregular) passage of about 2 ft. separated one house from another. They had no common party walls.[1]

Elsewhere in India at the city site of Bhita[2], Taxila[3], or in the Buddhist monasteries at Kasia[4], Sarnath[5], Sanchi[6], Nālandā[7], Paharpur[8], and Sambhar[9] it has invariably been found that a building consisted of an open square or rectangle in the centre (*catuśśālā*) around which on three or all the four sides rooms were arranged in rows. The Buddhist rock-cut vihāras in the Deccan are also on the same plan. Sir John Marshall has gone so far as to suggest that *catuśśālā*-plan of the Buddhist monasteries was based on the house-plans of the Mauryan city of Bhita[10]. Even at Mohenjodaro (and at Ur), to take an instance from a much earlier period, the houses in many cases were built on this plan[11].

Whether the Kolhapur house plan above referred to was a common feature of the whole city and a special feature of the cities in Western India, or the Deccan cannot be said without further data.

In the Konkan, I understand, from Dr. Mrs. Karve, that it is usual to have houses on such a plan.

Is the custom handed down from antiquity?

Though the Kolhapur houses thus seem to differ in plan from those of the rest of India, the method of roofing them was identical. For the types of tiles and iron nails which held them in position have been found at Bhita[12], in the Maurya, Kushan and Gupta period houses, at Basarh,[13] (ancient Vaiśali, Bihar), Rairh[14] and Bairat[15], Maheshwar[16] (C.I.) Sanchi,[17] and Bangarh.[18] At one or both ends of the spine or the mid-ridge of the roof, stood a pottery finial. This, too, has been found at Bhita, Basarh, and Sambhar.[19]

1 Similar features have been noticed by Sahni, at Sambhar. He thinks that such passages were left for the use of scavengers etc. *Excavations at Sambhar* p. 21. Dr. Dikshit noticed similar passages at Chandravalli also at Sisupalgarh; *Ancient India*, No. 5, p. 70, Pl. XXX. 2 *ASIAR*, 1911–12, 31. 3 *Ibid.*, 1914–15, 14. 4 *Ibid.*, 1904–05, 57.
5 *Ibid.*, p. 64, Pl. XV. 6 *Ibid.*, 1936–37. 7 *Ibid.*, 1930–34, 135.
8 Dikshit, K. N., *Excavations at Paharpur*, *MASI*, No. 55, 18.
9 Sahni, *Excavations at Sambhar*, 20. 10 *ASIAR*, 1911–12, 31.
11 *Ibid.*, 1926–27, 62. 12 *ASIAR*, 1911–12, 41, 85, Pls. XXIX–XXX.
13 *Ibid.*, 1903–04, Pl. XXXVIII. 14 Puri, *Excavations at Rairh* 7.
15 *ASIAR*, 1935–36, 85. 16 *ASIAR*, 1935–36, 82.
17 Marshall, Foucher, Mujumdar, *Monuments of Sanchi*. Pl. *CXI*, (*a*).
18 Goswami, Kunja Gobinda, *Excavations at Bangarh*, (University of Calcutta 1948) 35.
19 Sahni, *Excavations at Sambhar* pl. XIII, g.

No actual remains of doors have been found, nor bolts and locks. But in one house we have clear evidence of the slits into which the door frame must have been inserted. On these were hung the fly or flies of the door proper with the help of an iron hinge. A charred specimen of the latter was found from Sq. I. How the rooms were otherwise ventilated, we have no means to say, for no where traces of windows had remained.

The Sātavāhana houses in Sq. II were found to be sealed by a low brick structure (or wall) of a slightly later period, the floor of which was made of a lime concrete-like mixture of small pebbles, stones, and lime.

The occurrence of such a floor in the period immediately following the Sātavāhana at a site in the Deccan deserves to be noted. Though such a flooring material is recorded from Mauryan and pre-Mauryan levels at Bhita[1] and Besnagar,[2] it is about A.D. 350 that it seems to have been common in many parts of India. For instance, it occurs in post-Mauryan (Gupta?) houses at Sanchi,[3] Sarnath,[4] Basarh,[5] Lauriya-Nandangarh,[6] Nālandā[7], Pataliputrā,[8] and Bangarh (Dinajpur District, Bengal).[9] Of course, the concrete everywhere was not made in an identical manner. Lime, either as *kankar* or otherwise was the common factor. But other ingredients varied, according to the availability of the material.

Besides the general features of houses, some of their contents, household articles and other things also provide an interesting study in culture contact and diffusion, while the coins throw light not only on the chronology, but particularly on the Sātavāhana period.

COINS

The coins provide not only a few new types but also information on the chronology of the site, and the relation of its various cultural periods with other parts of India, and even outside India.

The Bahmani coins found at Kolhapur are in no way remarkable, except the fact that these have been found for the first time in stratified excavations. The coins of the Imperial Sātavāhana dynasty present two new types of cast copper coins. Smaller denominations of the coins of Viḷivāyakura are also met with for the first time, though the larger coins of their class were discovered before at Kolhapur and were recently also found at Karad.

1 Found 23 ft. below surface, and below the floor of Mauryan houses III, IV, V. MARSHALL dates it to about 700 B.C. *ASIAR* 1911–12, 30. *JRAS* 1911, 141.

2 *ASIAR*, 1913–14, Pt. i, 19.

3 *Ibid.*, 1912–13, Pt. i, 19–20.

4 *Ibid.*, 1906–07, 69.

5 *Ibid.*, 1903–04, 94. Here the concrete is laid on a single layer of bricks, almost exactly as it is done at Kolhapur.

6 *ASIAR*, 1935–36, 57.

7 *Ibid.*, 1926–27, 132.

8 *Ibid.*, 1926–27, 132.

9 GOSWAMI, *op. cit.* 35.

From a discussion of these coins the following tentative conclusions may be drawn.

(1) That the Cuṭus, Kuras, Mahārathis, and Early Sātavāhanas were contemporaries, as coins of all these rulers are found in the same layers, or at any rate before the brick structures at Kolhapur.

This contemporaneity was hitherto assumed purely on the grounds of palaeography and the similarity of coins of these dynasties. It is now corroborated by stratigraphic evidence. The exact relationship in time and otherwise, by marriage or descent, between the different members of these families and the sequence in each family could have been perhaps further clarified, if we could have got all the coins for study. But there is no doubt that future extensive excavations of the early layers at Kolhapur will provide this much necessary information.

(2) That the Sātavāhanas rose to an imperial position, sometime after the 1st century A.D. or if there were two such periods, one before and one after the Christian era, then Gautamīputra and Śrī Yajña Sātakarṇi definitely belong to the Christian era. This fact was also assumed hitherto on palaeographic grounds, and Vāsiṣṭhiputra's Gautamīputra's son's synchronism with Kṣatrapa Rudradāman. For according to Kolhapur evidence, the coins of these rulers are found only in later layers, and none at all in the pre-building levels.

(3) That the fine brick houses probably came into existence about the 1st century A.D., owing perhaps to a prosperous trade with Rome and the western world. For most of the coins of Mahārathis, Cuṭus, and Kuras (including Viḷivāyakura and others) are found in the layers forming the foundation of the houses; and also because clay vessels imitating Roman bronzes are found on the pavement of the kitchen of the brick structures. If the pottery were definitely imported, as at Arikamedu, then it would have been possible to fix the date of the structures more precisely.

This inference from coins is also supported by the terracotta Roman bullae, and the Brāhmī seal. Both come from the debris of the brick structures forming layer 6 in Pit 1 and Sq. I respectively. The presence of the former indicates that it was an imitation of Roman coins which became current in India in or after the 1st century B.C. That is, most probably, it belongs to the 1st or 2nd century A.D. The seal again is inscribed in letters of the 2nd century A.D.

(4) How long the structures survived, it is difficult to say, but probably not after the reign of Gautamīputra Sātakarni, that is circa. 130 A.D. For, as it happens, the two coins from Sq. II, layer 6, where the evidence of "post-Sātavāhana" building covering the earlier ones by lime-concrete pavements, was clear, bear no inscriptions, while a few coins are a survival of the kings already met with in the early layers, and a number of coins from this transitional layers are indistinct.

(5) The occurrence of the coins of several distinct but probably related rulers in the early layers (8-10) also supports the assumption that these are not debris of earlier deposits *in situ*, but probably earth dumps brought thither to lay the foundation of the brick houses.

POTTERY

Pottery has been described as the alphabet of archaeological chronology. The life of a pottery type is very short and the orthodoxy of human nature is generally not inclined to introduce any new variety in the daily ware unless compelled for utilitarian reasons. Pottery has a durability which under certain favourable conditions preserves remarkably well and countless potsherds in excavations are a valuable help in knowing the stratigraphical sequence. Abundance of material thus helps to identify the exact cultural significance even when other datable objects, like coins or inscriptions fail to aid the excavator. While this is true in a limited sense under observed conditions in a stratified excavation in a particular region, in a country like India, where diverse cultures are noticed at different periods spread over a vast area, the problem is somewhat complicated by the continuity of tradition and usage of similar wares.

While making a comparative study of pottery, the problem further lacks definition for want of adequate data from different sites. Indeed very few sites have been excavated in India, where the time range of the occupation of the site varies in a well connected stratigraphical horizon from 14th century A.D. to 2nd century B.C. Very little is known consequently to form an accurate estimate of the stages in the culture change noticed at each site and their chronology.

The stratified pottery unearthed at Kolhapur can be compared with other sites from their typology alone, which in many cases is not a very accurate index of their complete identity. Evidence of the fabric, degraissants and the methods of their manufacture have also to be taken into consideration for establishing culture contacts. Nevertheless, there are a few indications that when a complete study of the pottery of the region will be made, it would be possible to show some outstanding features which are shared in common by several allied sites and cultures.

The most prominent case is that of an imported ware, of which several sherds and two complete vessels were found in the Sātavāhana layers at Kolhapur. This ware occurs in a similar context on two other Sātavāhana sites in the Deccan, *viz.*, at Chandravalli in Northern Mysore[1] and at Kondapur in the Hyderabad State. A characteristic funnel-shaped top is a common feature in this pottery type and the sherds have a smooth bright red slip on the exterior. At Kondapur the ware occurs in fragments and the site museum preserves at least thirty such sherds.[2] At both these places the ware occurs in association with clay imitations of Roman coins, a feature which is also shared by Kolhapur. It is probable therefore that these vessels were copied after Roman models or were actual importations. In fact, an exact metal proto-type of the pottery vessel, found along with

[1] *Ancient India*, No. 4. pp. 280-82 and Fig. 46.

[2] Nos. B 2 1, B d 2; 4135, 998, 0585, 2132, B 3 d, 10844 etc., in the site museum.

other objects admittedly of foreign origin, was recovered in the 1944 excavations on the Brahmapuri site.[1]

In the Sātavāhana layers at Kolhapur another distinguishing ware is the blunt rimmed dish, the occurrence of which is noted on several sites in India. At Arikamedu,[2] the type is represented by few dishes of the post-Arretine period. It is found in the Andhra Pottery from Brahmagiri[3] and Chandravalli.[4] It is also known from Rairh[5] and Bangarh.[6] In Maharashtra it is a very common type in the unstratified deposits at Karad and Nasik.

Another type of vessel which has remarkable affinities with other sites in India, is the Ṭhāvkā or a drinking cup with a tapering bottom. It compares favourably with such vessels obtained at Ahichchhatra[7], at Maholi near Mathura[8], Rairh[9] in Jaipur State, Bangarh[10] in West Bengal, at Bhita[11] in the Gangetic Valley, at Sirkap,[12] Taxila, and at Besnagar[13] in Central India as also at Sarnath near Benares. In the South, analogous types of vessels have been recovered from Arikamedu[14] and are known from Herekal and Vadgaon,[15] Chandravalli, Brahmagiri, Kondapur, Karad and Nasik.

The kaolin covered terracotta figurines and bowls from Kolhapur found in the Sātavāhana layers compare favourably with similar objects from Kondapur, but in quantity the figures at the latter place surpass the meagre amount obtained at Kolhapur.

Only two small fragments of cut-ware vessels (type 86) were obtained in the Kolhapur excavations; though no exact replicas of it are known from other sites in India, the tradition is quite familiar to the Indian potter since cut ware vessels are often found at Mohenjodaro.[16]

A characteristic pottery type deserves a special mention because of its widespread use throughout India in remote antiquity. It is a finial which probably adorned the top of the well-built houses during the early centuries of the Christian era (100 B.C.-A.D. 600.) In Northern India, pottery finials are known from Bhita,[17] Kasia,[18] in the Gangetic Valley; a Rairh[19] and Sambhar[20] in the Jaipur State; at Bangarh[21] in West Bengal

1 *Ancient India*, No. 4. Here Pl. XXXIII, D. 2 *Ancient India*, No. 2. pp. 55 Type 5.
3 *Ancient India*, No. 4. pp. 239, Type T 141.
4 *Ibid.*, p. 281, Type A 10–19. 5 PURI, *Excavations at Rairh*, Pl. VII, 22.
6 GOSWAMI, *Excavations at Bangarh*, Plate XXVIII, 16.
7 *Ancient India*, No. 1, pp. 46, Fig. 2. 8 *JUPHS* 15 (1940), Plate 1.
9 PURI, *op. cit.*, Plate VIII, 20, 22; and Plate XI, 10.
10 GOSWAMI, *op. cit.*, Plate XXVIII, 4. 11 *ASIAR* 1911–12, Plate XXIX 8,9,11.
12 *ASIAR* 1914–15, Pl. XXI, 45. 13 *ASIAR* 1913–14, Plate LXII, 110.
14 *Ancient India*, No 2. pp. 60, Type 12 Fig. 18.
15 *JUB* XVII (n.s.) January 1949, Pl. opp. pp. 13 and 14 respectively.
16 MACKAY, *Further Excavations at Mohenjodaro*, Plate LXVII, 7–11.
17 *ASIAR*, 1911–12, Plate XXIX, 23, 48; Plate XXX, 69, 92.
18 *Ibid.*, Plate LXVI, Fig. 10, 7th specimen from right in the bottom row.
19 PURI, *op. cit.*, Plate VII, 46.
20 SAHNI, *Excavations at Sambhar* Plate XIII, g.
21 GOSWAMI *op. cit.*, Plate XXIX, 36.

and at Ujjain[1] in Central India. In the South such finials have been obtained at Ramatirtham,[2] in the pre-Arretine and Arretine layers at Arikamedu[3] and at Kondapur[4] in the Hyderabad State. The type therefore seems to be prevalent all over the country.

TINNING

Attention may also be drawn to the evidence regarding the practice of tin-coating of copper vessels in India. In the Bahmani stratum two small vessels (Plate XXIII) were found which had their both (inner and outer) surfaces coated with tin. Professor P. K. GODE who has studied the problem of tin-coating of metallic vessels in India, has shown that the antiquity of the practice does not go beyond A.D. 1300 from the literary sources available.[5] The occurrence of the tinned containers at Kolhapur surprisingly confirm this.

BEADS

As the most common mode of ornamentation beads have been worn in strings since the dawn of civilization. What interests us most is not the occurrence of beads at several excavated sites but the variety of their shapes, manner of ornamentation and the different materials employed in their manufacture. These indicate the various fashions current in different periods and the high aesthetical standards attained by man in his civilized state. Several beads found in the stratified excavation at Kolhapur not only enable us to judge these standards through successive periods in the history of the Brahmapuri mound but also to form an accurate estimate of the culture contacts with other parts of India and perhaps the outside world. Unfortunately the study of beads has received a very scanty attention from archaeologists in the past and consequently no detailed information regarding these "Minor Finds" from different sites in India is available to the serious student, though of late some attention to this fascinating subject has been drawn. Most of the beads found in the Indian collections are insecurely dated and the possibility of ancient beads being re-used in later periods has often added to the difficulties of the problem which still remains to be studied along systematic lines followed in Europe and elsewhere. Nevertheless certain parallels of outstanding nature are to be seen among the beads found at different places in India and can be compared with the Kolhapur beads. These indicate that during certain periods, there is a sort of a continuity or commonness of predominating types of beads worn by people all over India.

1 *Vikrama Smriti Grantha*, Plate opp. pp. 688. No. 443.

2 *ASIAR* 1909–10, Plate XLIV, 6, 16, 20, 25, 29 and Plate XLV. 4.

3 *Ancient India*, No. 2. Type 146.

4 Several perfect specimens in the Kondapur Museum.

5 GODE, *Sreenivasachari, Sixty-first Birthday Presentation Volume*, p. 96.

From the technique of their manufacture the glass beads found at Kolhapur deserve a special mention. The Sātavāhana layers yield at least 7 or 8 varieties which are distinctive and compare favourably with material obtained on Sātavāhana sites Kondapur, Chandravalli, Paithan in the Deccan.

These are

(A) Large melon or gadrooned double beads of cobalt coloured blue glass.
(B) Beads of transparent greenish glass with collars.
(C) Beads inlaid with gold foil between layers of glass.
(D) Folded beads of transparent blue glass with white opaque lines in between them.
(E) Beads of composite glass, generally with a white or yellow matrix overlaid with green or bluish green glass.
(F) Beads of copper-red glass.

Large melon beads similar to the Kolhapur specimens have been found at Chandravalli, Kondapur, Paithan and Karad. Their resemblance is so close that one cannot doubt that the bead type was very common during the Sātavāhana period and covered a vast area comprising the lower Deccan. The technique of folding and separating a single bead from a long tubular section is so identical at these places that it would appear as if they were made in one and the same factory or by persons who closely imitated the form at each of the four sites above named.

Collared beads are similarly quite common to the Sātavāhana sites in the Deccan and occur in quantities at Kondapur, Chandravalli, Paithan. Similar beads are also found at Arikamedu[1] on the Eastern coast and it is interesting to note that the same archaeological sequence of beads forms noticed at Taxila and Arikamedu has been confirmed in the types noticed at Kolhapur where lug collared beads of this shape have been ante-dated by the groove collared ones.

Beads with gold foil also appear to be common at the above named three Sātavāhana sites. In the excavations at Kondapur, six such beads were found while several occurred at Chandravalli[2]. In the excavations at Karad, one bead similar to the Kolhapur specimen No. 1316 was found in association with Sātavāhana coins. The technique of using gold foil for glass beads was also noticed at Bhita[3] in U.P. where two beads were found in a mixed stratum.

This technique though noticed at the above named sites seems to have a very wide distribution, in other parts of the world. About these beads Beck writes as follows:

"One of the most distinctive types of beads found here are

[1] *Ancient India*, No. 2. Fig. 41, 55, 56.

[2] Bead Nos. 267, 709, 1043, 1894, 1962, 3954, 4356, etc., in the Mysore Museum.

[3] *JRAS* 1911, 131 ff.

some of transparent glass in which is a layer of gold leaf. These have been made in cane and notched by pressure when hot, so that they could easily be broken off. Such beads have been found in Java and are common in Egypt and Syria where they are called Roman. This however is not a suitable name as they were made over a long period, being found amongst the *La Tene* beads in Corsica several centuries B.C. and among the Danish beads in York which date 9th to 10th centuries A.D."

As we have direct evidence from the Sātavāhana sites in the Deccan about the Roman influence felt there, it is probable that the Kolhapur specimens were brought by the Romans who had extensive trade relations with the Deccan in the Sātavāhana period.

Folded glass beads with white opaque bands are also characteristic of the Sātavāhana period, being found on sites like Kondapur, Chandravalli and Paithan. In North India a very large number of them occur at Rajghat near Benares, Bhita, and Kosam in the United Provinces and at the ancient site of Pataliputra in Bihar. The beads found at Kolhapur are square cylinders in shape, but those from the U.P. sites have various shapes such as lozenges, diamonds, discs etc., though the proportion of square cylinders is generally very great on all the above named sites. Identical technique is employed in their manufacture. In the far south beads of a similar description have been noticed in the megalithic burials near Sulur, in the Coimbatore district. Curiously enough an exact paralled to the Kolhapur specimens is also noticed in a bead from Sarawak, illustrated by BECK[1] but it is doubtful if the identity is merely circumstantial or indicative of importations from a common place of origin.

Beads of composite glass constitute a large number among those found in the Bahmani layers at Kolhapur. The most commonly noticed bead has a yellow matrix rolled over by green glass. This feature is shared by a few beads at Chandravalli.[2] Blue tubular beads with white porcelainous core beneath have parallels with beads found at Kondapur[3] where a kind of red glass takes the place of blue. The latter are known as Venetian beads and the technique probably was imported into India, but at what date precisely it is difficult to estimate. Black beads with white stripes are very well represented at Kolhapur, but the method usually seems to be of putting a layer of these on an already prepared matrix and the glass makers do not seem to be familiar with the real "Millifiori" process. The cross sections of the bangles (manufactured in the Bahmani period) also fail to show this, though the artisan has produced a number of patterns by using spirally wound wires of plastic glass in different colours. Particular significance therefore attaches to a composite bead—Blotched bead technically—

1 *Man* 1930, Art. 130.

2 Cf. No. 2190 in Mysore Museum.

3 From examination of the specimens in the Kondapur Museum.

where two or three layers of white are mixed with black glass to produce a patchy effect on the bead surface. Scarcity and the difference in technique points to this bead as an importation, and it is noteworthy that two similarly treated beads are found in the Chandravalli[1] collection of beads in the Mysore Museum. Besides this there is only one scalloped bead from Kolhapur with white markings on black glass which is almost identical with a specimen from Chandravalli. Similarly scalloped beads with yellow lines over a black base occur on several sites in the Gangetic valley, especially at Rajghat, Sarnath, Sankisa and Patna[2] where the pattern is intended to imitate certain decorative motifs of common occurrence on etched carnelian or agate beads and to produce cheap glass substitutes.

It is interesting to note that the antiquity of the beads of this variety goes as far back as 1500 B.C. in Egypt where such beads were used by people of the XVIIIth Dynasty and continued to be worn in the Roman period.[3] "Somewhat similar designs were occasionally made by the Saxons and the Vikings and wire drawn beads of different types were also made at Venice." Beads with scallopings have also been found in a grave in the Mapungubwe district in North Transval where it is dated between 200 B.C. to A.D. 300.

The presence of a scalloped bead in the Bahmani layers indicates the possibility of the technique being adopted in India at that period or perhaps the specimen originally belonged to an earlier period and was re-used subsequently. The probability of the latter is suggested by the non-use of wire drawn scallopings on other glass objects like bangles which have only a patinated layer inlaid over the entire surface of the glass core. If the bead be earlier as indicated above there is a possibility of its being imported from elsewhere.

Only a few of the stone beads have resemblances with other beads found elsewhere in India. As the study of beads has not much progressed in this country, it is very difficult to say at this stage whether a particular shape could be definitely assigned to a particular age or *vice versa*, since not much material from stratified areas is available for study in Indian Museums.

Of primary importance in the collection of stone beads from Kolhapur are those of carnelian having patterns etched on their surface. Beads of both Type I and II have been found here.

The antiquity of etched carnelian beads can be traced as far back as 2300 B.C. in India, as such beads have been found at Mohenjodaro, Harappa and Chanhudaro. Etched beads are fairly common in the 2nd-4th century A.D. and are known from several sites in India. Their

[1] From examination of the specimens in the Mysore Museum.

[2] This is based on the study of several specimens from the above named sites, preserved in the Allahabad, Benares and Patna Museums. None of them appear to be published.

[3] Cf. FOUCHE (Ed.) *Mapungubwe* (Cambridge, 1937), 108, Plate D, 11 (R 2)

terminus quo however cannot be fixed with any certainty to this day. At Sehwan in Sind, beads manufactured with this process were still current in the eighties of the last century, but in so far as the Deccan is concerned no beads are reported later than the mediaeval times. There is only one bead (of type II) from Kolhapur which belongs to the Bahmani period but whether it was an old specimen re-used at a later period, it is very difficult to say for the present. From the large number of etched beads found in the previous excavations at the Brahmapuri site as also from the data available to us, it seems well nigh certain that it was during the pre-Sātavāhana and Sātavāhana periods that these beads became most popular.[1]

Of great interest is the pattern on the several beads found at Kolhapur. These are barrel beads decorated with a zonal bands at the margin with a chevron in the centre. Whereas the present excavations revealed the existence of two beads, the previous excavations yielded at least six such specimens which are now preserved in the Kolhapur Museum. As I have indicated elsewhere,[2] this pattern is peculiar to Southern India and is found on no less than nine sites, *viz.*, Bilikambe, Chandravalli, Kondapur, Maski, Montapalle, Muribetta, Paithan, Paravai and Sangankallu. Beads bearing this pattern recovered from the megalithic burials are generally barrel shaped with a circular cross section but those from the Sātavāhana period are invariably cylindrical as indicated by the several specimens from Kolhapur. There is only one exception to this namely a barrel shaped bead of Type II which is assigned to the sixteenth century.

The occurrence of two beads of Type II at Kolhapur is noteworthy. Not only are they important to show the general prevalence of these beads as late as the 2nd century A.D. but also to show that such beads were not so rare in India as was formerly supposed. The pattern on one of them—the dot and dash pattern—is as yet unrepresented on any of the specimens found in India known so far. The second one already mentioned bears the zone and chevron pattern.

The importance of these beads lies in the curious technique used in their manufacture, being decorated with an alkaline solution of the juice of a plant called *Kirar* and the pattern is permanently fixed on the bead surface by heating. Beads decorated with this process have been found on several sites in India, the earliest among those being the ones found at Mohenjodaro, Harappa and Chanhudaro in the Indus Valley. The technique very probably reached the Middle East probably through Persian Baluchistan or by sea and beads bearing identical patterns with the Indus Valley beads are also found at Ur, Kish, Tell Asmar and several other sites in Persia and Baluchistan. Beads of Type I, decorated with white designs are by far the most common amongst these but a few with black lines (Type II) have also been found.

1 For the distribution of etched beads in India see DIKSHIT *Etched Beads in India*, Chapter II.

2 *Ibid.*, Chapter III Pattern No. 26

Other beads of carnelian found at Kolhapur do not show much variety in their shapes.

Out of the crystal objects found at Kolhapur only a few deserve notice for the parallels they have with objects found on other sites in India.

One of them is a small crystal boss, which probably was meant for inserting into the lobes of the ear. Objects similar to these are known from other sites and are often associated with Buddhist reliquaries. Excavations at the main stupa site at Nagarjunikonda have yielded a similar ear-ornament.[1] In the Hyderabad Museum three similar objects are preserved and are said to have been found at Maski in association with a miniature Buddha head in crystal. Two such crystal objects have also been found at the famous Buddhist site of Kondapur and are preserved in the site museum. Besides these examples from the Deccan, similar objects of different stones like green jasper, chalcedony, agate, etc., have been discovered at Rajghat, Kosam and Patna in the Gangetic Valley. They have varying sizes and shapes and it is suggested that these objects were used as weights. It is noteworthy however that none of these have concave sides, as on the specimens noted above and the possibility of their being used as weights cannot be altogether ruled out. The Kolhapur specimen is damaged and the weights of the specimens from Nagarjunikonda, Maski or Kondapur are not known. Similarly the identification of the objects from the Northern Indian sites as weights further requires to be established by actual weighing.

The wide distribution of these objects however shows their popularity, particularly in the Śātavāhana period in the Deccan.

Lapis Lazuli beads found in Kolhapur show that the place was commercially connected with countries like Badakshan, Persia, since this stone is not indigenous to India. Square cylinders, the shape of many beads found at Kolhapur, has a very remote antiquity in India, since beads of these shapes have been recovered at Mohenjodaro[2] and Chanhudaro.[3] In the Deccan, square cylinders of lapis lazuli are fairly common in the Megalithic burials at Raigir[4] and several hundreds of such beads from the excavations at Maski are preserved in the Hyderabad Museum, all of which are datable to about the 2nd-4th century A.D.

Green Jasper: Though only two beads of green jasper have been found in the excavations, the shapes of these are quite interesting. Twisted pentagons similar to Kolhapur specimen are found in a very large number at Kosam and several such are preserved in the Allahabad Museum, though most of them are surface finds and come from an unstratified area.

[1] LONGHURST, *The Buddhist Antiquities of Nagarjunikonda*, *MASI*, 54, Plate XIII, d.

[2] MACKAY, *Further Excavations at Mohenjodaro*, Plate CXXXVII, 76.

[3] MACKAY, *Chanhudaro Excavations*, Plate, LXXXI, 23.

[4] Cf. MAN, 1930, Art. 134.

Square cylinder beads almost identical with the Kolhapur specimens are to be found in Taxila[1] and are assigned to the 1st century B.C.

Among the faience beads, gadrooned beads which resemble the āmalaka seed have a very wide distribution in India. In the North, beads of this shape are commonly found at Charsadda[2] and at Taxila[3]. In the Deccan beads of this shape have been found in the excavations at Chandravalli,[4] Kondapur and Paithan. At Kondapur, nearly 180 out of a total of 200 beads found on the site were gadrooned and showed that they enjoyed a good deal of popularity. The period assigned to these beads is approximately 2nd to 4th century A.D.

Faience as a material for beads is known from a remote antiquity, these beads having been found at Mohenjodaro also. In the Deccan the practice of using these beads seems to have died out almost immediately after the Śātavāhana period, since the Bahmani layers at Kolhapur did not yield any. This was probably due to the use of a more durable material like glass and perhaps to the changes in fashions of the people.

Terracotta beads have been found in a very large number at Kolhapur and one special type of bead deserves our attention since it is found on several sites in India. This is an areca-nut shaped bead. Its occurrence is first noticed at Harappa where a few specimens were obtained on the surface and were assigned to the Gupta period. Quite a large number of similar beads have been found at Arikamedu,[5] Brahmagiri,[6] Chandravalli,[7] Besnagar, Kosam, Ahichchhatra, Karad, Nasik, Kondapur all of which are generally assignable to 2nd to 4th century A.D.

Amongst the terracotta beads there is one which has the representation of an eye in high relief. This bead is closely similar to another such bead obtained at Besnagar.[8]

Bead pendants obtained at Kolhapur have a remarkable affinity with similar pendants at Kondapur, where six pendants of a similar shape were obtained. All these show the similarity of material culture during the Āndhra period.

Beads with capped ends, of which only a few specimens were found at Kolhapur, have their antiquity as far back as 2300 B.C. since such beads are obtained at Mohenjodaro.[9]

1 Beck, *Beads from Taxila*, *MASI*, 65, Plate X, Fig. 8.

2 *ASIAR* 1902–03, Plate XXVIII, b, 2. 3 Beck, *op. cit.* Plate X, Fig. 7.

4 Bead Nos. 1093, 362, 3390, 4735, and 4676 in the Mysore Museum.

5 *Ancient India*, No. 2. Fig.41, 42–44.

6 *Ancient India*, No. 4. Plate CXX A.

7 Several beads in the Mysore Museum and others from 1947 excavations.

8 *ASIAR* 1913–14, Plate LX.

9 Marshall, *Mohenjodaro and the Indus Valley Civilization* II, 523. Mackay, *F.E.M.*, pp. 501, 516, 666, etc.

Another terracotta object which has a parallel with objects found in Taxila is the crescent shaped loop which could be used as a head ornament. Several such excavated from the Bhir mound are to be noticed in the Taxila Museum,[1] and the form is found repeated both in terracotta as well as gold. The latter have two small holes for suspension at both the ends of the crescent which was perhaps the case with the terracotta pendants at Kolhapur. At Kondapur also several crescents of an identical shape have been found.

BANGLES

Bangles of gold, bone, chank shell, etc., have been found in India and elsewhere from prehistoric times. So their discovery at Kolhapur is not surprising, as the fact that a large number of them are of monochrome and polychrome glass, and all from strata assignable to the Bahmani period. The question naturally arises whether this craft arose and became popular in India or the Deccan at this period. Though the stratigraphic evidence from Kolhapur is clear, no definite answer can be given at this stage. For the manufacture of glass is known from a very early period (about 1500 B.C.),[2] whereas glass bangles of the type found at Kolhapur have turned up at Brahmagiri (simple monochrome), many sites in the Deccan, Sanchi, Bangarh (Bengal), Baluchistan and Iran.[3] It has been shown by the writer that the evidence assigning the Deccan and Baluchistan specimens to a prehistoric period is faulty.[4] The Brahmagiri specimens are placed on stratigraphic evidence in the Āndhra period,[5] while those from Bangarh are assigned to the Śuṅga and Pala periods respectively.[6] About those from Sanchi, we have no details; they have been exhibited in the local museum. But some of them are identical, as are those from the sites in Baluchistan, with some of the beaded polychrome ware from Kolhapur. From certain evidence recorded by STEIN the writer was inclined to think that the art originated in Iran, along with that of glazed ware, and was introduced into India by the Iranian Muslims in the 13th to 14th century.[7]

[1] *Ancient India*, No. 1. Plate VI C and IX, 1. [2] See BECK, *Ancient Egypt*, 1934, 13. Whereas glass mosaics have been found in a Babylonian city of about 2000 B.C. at Harmal. See *Bulletin University Museum*, Philadelphia, XIII, No. 2, p. 24.

[3] For details see SANKALIA, "Antiquity of Glass Bangles in India," *BDCRI* VIII, No. 3-4. 254–56.

[4] *Ibid.*, 257. [5] *Ancient India*, No. 4, 1947, 263.

[6] See GOSWAMI, *op. cit.* 37 and 39. But unfortunately no details are given, except a passing reference.

[7] To this may now be added the evidence from Arabia, where according to the information kindly supplied by Mr. OHIO H. MYRES, of the Gordon Memorial College, Khartum, to Dr. DIKSHIT, the art of polychrome glass bangles, some of whose patterns very much resemble those from Kolhapur and other sites, is attributed to the XIII–XVI century A.D. The evidence from Aden is similar. See HAMILTON, *G.J.*, CI (1943), p. 113.

While this is not impossible, one has to note the existence of other glass objects—like seals from Mauryan levels at Patna, and beads from various sites—and bangles from Brahmagiri, Sanchi and Taxila very likely of the 2nd century A.D. and earlier, so that probably glass making and turning it into beads, and bangles was known in India from an early period.[1]

This is corroborated to some extent by a reference in SOMESVARA's '*Surothotsava*', a 13th century work from Gujarat, where an explicit reference is made to glass bangles in such a manner as to imply a long tradition.[2]

Looking to this conflicting evidence, it appears that no definite views can be formulated until excavations are conducted at several sites in India and Iran.

What is remarkable however is the identity in the nature of the glass, and the style and technique used in the manufacture of the bangles from Brahmagiri and Kolhapur and other sites in the Deccan, Sanchi, Central India and those from the N.W. India and Iran.

The glass is translucent but not transparent as in modern glass bangles, and often becomes powdery. However the craftsmen have shown perfect skill in using several colours—yellow, orange, blue, and green (various shades), black, either singly or in combination. The simplest monochrome is made by pulling out a wire from molten glass kept around the furnace in small crucibles.[3]

The same technique is used in polychrome ware, for instance in type III D, where several wires are brought together in semi-molten state and then fused. But the skill shown is really admirable in types III E, where thin wires of two or three colours are twisted together in a very thin band, or in type III A, where two or three thin wires of different colours are so placed on a thick white band, as to give the appearance of being painted in thin strips on the same plane and then polished off, to give a smooth surface.

In the type IVc, the V-design has been actually applied later, perhaps with a thin brush or stick.

In bangles having beads on the rim or border two methods seem to have been employed. In those cases where the beads are of the same colour as the underlying band, the former seem to have been pulled out of the semi-molten wire; where, however, the beads are of a colour other than the underlying band, they must have been added later.

The various shapes and styles are no doubt suggested by the then existing fashions in lac, conch-shell, gold and pearl, just as the

1 Cf. *Ancient India*, No. 4, 263. Also MARSHALL, *Taxila*, II, p. 684.

2 Information kindly supplied by Prof. BHOGILAL SANDESRA of the Gujarat Vidya Sabha, Ahmedabad. The verse is as follows: *Kā ca kācavalayāvaliśabdai—*
rājuhāva hridayaṁ dayitāsya VI, 165.

3 Even at present this process is used, as was witnessed by us at Ghodgeri, a few miles from Gokak Railway Station.

modern bangles in plastic are exact imitations of those in glass and other material. For instance, type III D is really an imitation of the one in bone or conch-shell, often coloured red for use in marriage, and further ornamented with gold or pearl rims; whereas in type III E, the prototype seems to be the bone or conch-shell bangles decorated with gold or silver wires. In III C or IX it is intended to give the effect of inset diamonds or pearls.

Briefly, the introduction of glass bangles must have had the same effect on the public and the craftsmen, as that of "plastic" bangles at present. The latter could produce in vivid colours and at comparatively little cost, offering larger variety in glass, what their predecessors could do in precious metals and stones.

TOOLS AND WEAPONS

Very few metal tools and weapons were found at Kolhapur. Among the former nails were the most common. Many of these are from the Sātavāhana and the immediately following post-Sātavāhana layers. The former are usually square in section and have a projecting top. Almost similar or identical nails have been found from the Gupta or slightly earlier levels at sites in Northern India.[1] While a few turned up in the recent excavations at Brahmagiri in the megalithic and Āndhra layers respectively[2]. Their discovery in the north is natural, as one of their uses was to keep the terracotta tiles fixed on to the rafters. And, as noted above, exactly or very much similar tiles have been found in the north.

Among the weapons, we may note the few arrow or javelin-heads besides the hunting dagger or knife.

The former are leaf or triangular in shape and all have simple tangs. There are none with sockets. In spite of the very limited nature of our data from Kolhapur or from other parts of India, looking to the available Indian evidence, it may be said that socketed tools and weapons in copper, bronze or iron are comparatively very rare. All the Indus Valley specimens from early or late levels are with tangs.[3] The only exception is a very late, probably Kushan-socketed axe-adze from Mohenjodaro.[4] Among the arrow-heads may be noticed a few with leaf shapes,[5] almost similar to those from Kolhapur.

The implements from the copper hoard from the Gangetic Valley[6] are also with simple tangs.

[1] A number of these sites such as Nālandā, Kasia, Saheth Maheth, Sarnath have been mentioned earlier.

[2] *Ancient India*, 1947, No. 4, Fig. 40.

[3] See MARSHALL, *Mohenjodaro* and MACKAY, *Further Excavations at Mohenjodaro*, and *Chanhudaro Excavations*, and VATS, *Harappa*.

[4] MACKAY, *F.E.M.* pl. cxx. 27; cxxii, 12.

[5] MACKAY, *F.E.M.* p. 462, pl. cxxvii, 11; cxxxi, 18; *Chanhudaro*, pl. lxxiii, 1.

[6] *I.A.* XXXIV (1905) 229–44; XXXVI 1907, 53–55. See also *Antiquity* 18, (1944) 173–82.

The same tendency seems to persist in the early historical period in the north as finds from excavated sites reveal[1].

In the extreme south and the Mysore plateau, however, we meet with both the types. Socketed as well as plain, tanged, arrow heads and other weapons were found at Adichannalur.[2] FOOTE illustrates the socketed types from Mysore[3]. It must be noted, however, that all the recent finds from the megalithic and Āndhra levels at Brahmagiri[4] are of the tanged type, and in shape some of them resemble very much those from Kolhapur.

Sātavāhana Kolhapur has not given any weapons. But a knife described here as a hunting knife, (Pl. XXVIII. A) has an exact parallel in a similar specimen from Adichannallur, Tinnevelly District.[5]

Single and double-pointed bone tools have also been found at Sambhar,[6] and Rairh.[7] Since similar tools were also made in clay and baked, as shown by the excavations at Sahet-Mahet,[8] it would appear that their main purpose was, as suggested by SAHNI,[9] for scratching or lettering on ornamental pottery jars and the like, and not to serve as nails. It is also possible that these were fixed in a comb and used for weaving. These bone points seem to have been prepared from animal bones, as at Rairh.[10] Several hundreds were found in close proximity of animal remains.

QUERN

The four-legged saddle quern found in the Sātavāhana kitchen has also parallels from other parts of India. One made of red sandstone, with legs ornamented in low relief is reported from the Kushan level at Sirkap, Taxila.[11] The Bhita[12] specimen is decorated with rampant lions, and is dated 100 B.C.[13] While SAHNI[14] mentions a similar quern of the Kushan period from Sambhar and Rairh.[15] Granite types come from Perambair,[16] Chingleput District and Adichannallur.[17] At the Buddhist monastery at Sankaram, Vizagapatam District, was found one small saddle quern with legs. So also at Junagadh,[18] and some sites in Lower Bengal.

1 A number of these sites—Taxila, Bhita, Nālandā, have been mentioned before.

2 REA, *Catalogue*, *Prehistoric Antiquities* (Madras, 1915), pls. iii–v.

3 FOOTE, *C.P.A.*, (Madras, 1901). pl. xvi, No. 891.

4 *Ancient India*, No. IV, 1947, pp. 255–61.

5 *ASIAR*, 1902-03, Pl. XXIII, Fig. 4. Other tanged knives or daggers have also been found from S. Indian megaliths. Among these, the Brahmagiri ones are the best dated. See *Ancient India* 1947, No. 4, p. 256.

6 SAHNI, *Excavations at Sambhar*, 19, Pl. XV. 7.

7 PURI, *op. cit.*, p. 38, Pl. XXII, 16.

8 *ASIAR*, 1907-08, 108.

9 SAHNI, *op. cit.*, 19.

10 PURI, *op. cit.*, 38.

11 *ASIAR*, 1926–27, Pl. XXIII, Fig. 12.

12 *Ibid.*, 1911–12, Pl. XXXI.

13 The one found in the Gupta level is decorated with leaf designs, quarter lotuses, waves and dots, incised in low relief. *ASIAR* 1911–12, Pl. XXXII, 14.

14 SAHNI, *op. cit.*, p. 35.

15 PURI, *op. cit.*, Pl. XVIII, 5.

16 *ASIAR*, 1908–09.23, Pl. XXXIII.

17 *Ibid.*, 1902–03, 139.

18 DUTT, Bimal Kumar, "Some Early Antiquities from Lower Bengal" *Modern Review* 1948, 208.

What is remarkable in these specimens from different parts of India[1] is the fact that not only all are with legs, but all have got one end projected exactly as it is with the Kolhapur one. Such a close affinity in technique may well be regarded a common cultural trait. Where it originated and how it spread, cannot be ascertained at present. But somehow at a later date the ordinary, legless, solid type of saddle quern (the earliest datable specimen is from the Gupta level at Bhita),[2] became current, again almost all over India, with the result that the legged variety has vanished from the Indian household today.

For preparing certain types of beads, stone, preferably slate, was used is illustrated by the fact that moulds in this material have been found at Sambhar,[3] and at Taxila,[4] whereas one was found in the Śātavāhana layer at Kolhapur.

Studies in material culture have been hitherto neglected. So it is not possible to attempt any further correlations at this stage. Without however, drawing any inferences about the origin of various cultural objects found at Kolhapur, it may be said looking to the houses, their methods of construction, articles of daily life and decoration that in certain respects Śātavāhana Kolhapur partook of the then general ancient Indian culture, while in some respects it differed from the latter. Though slightly away from the famous sea ports on the Western coast, it too had felt the impact of the brisk trade with the Western world, particularly Roman. To this alone we have to attribute the discovery of bronze Graeco-Roman statuette of Poseidon, trefoil shaped bronze vessel, and possibly the chariot, the spouted bronze jug,[5] and their imitations in fine red clay vessels found on the floor of the Śātavāhana houses. But these are only trifles, compared to what could be learnt by a systematic and large scale excavations at other sites in Mahārāshṭra.

[1] Some grinding slabs were also found at Kasia, and Basarh (Bihar), but since these are not properly described nor illustrated it is difficult to judge of their types. See *ASIAR* 1906–7, 54, 1903–4, p. 90. CUNNINGHAM found them at numerous Buddhist sites, and thought that they were seats! See *ASR.* XV, 3. Some of these with absolutely flat tops might be so, but those which have slight hollows seem to be grinding stones.

[2] *ASIAR* 1911–12, 87.

[3] SAHNI *op. cit.*, 41, Pl. XVIII.

[4] *ASIAR* 1928–29, 63, Pl. XX, 5.

[5] See also R. E. M. WHEELER, "Roman Contact with India", etc. in *Aspects of Archaeology in Britain and Beyond* (Ed. by W. F. GRIMS, London 1951), pp. 345–81, and W. LAMB, *Greek and Roman Bronzes* (London 1929), Pl. XLVI, A.

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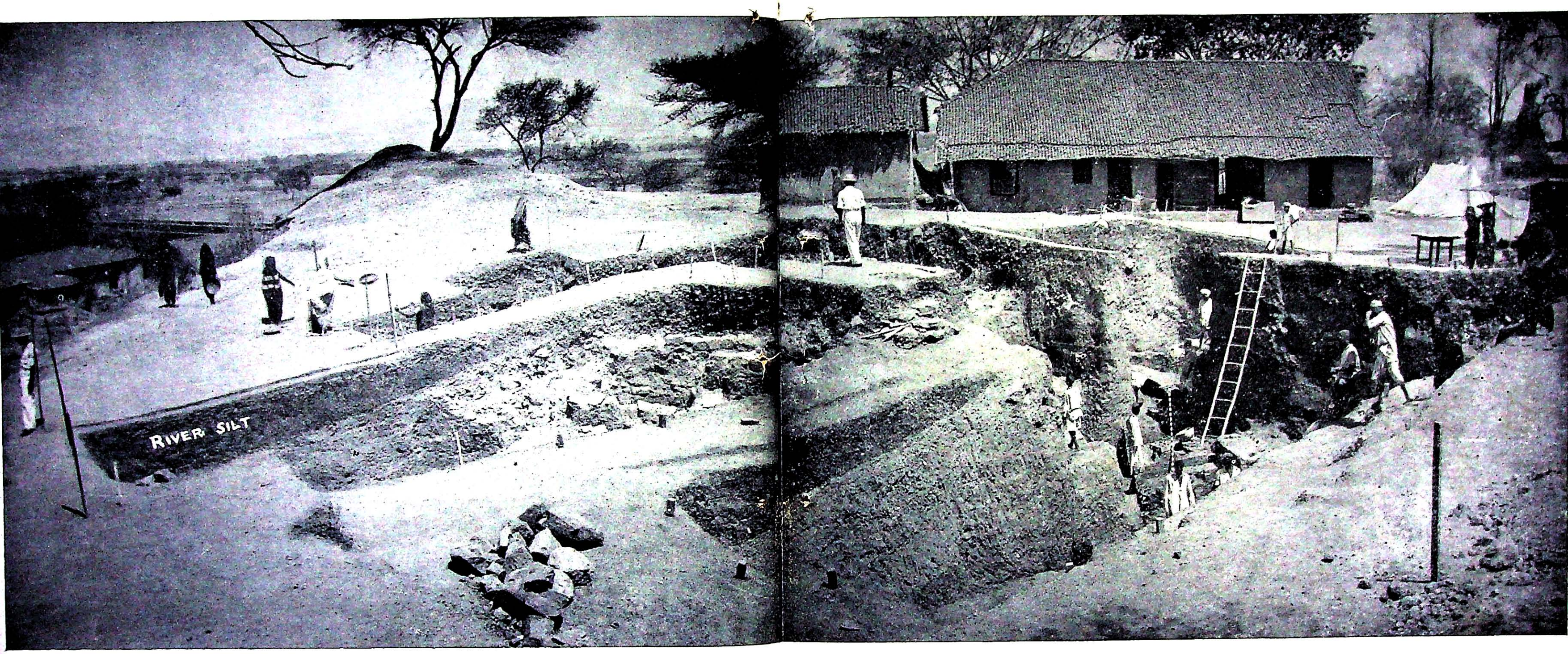
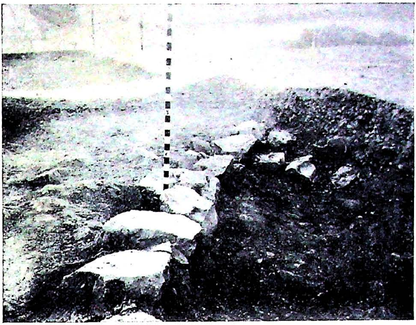
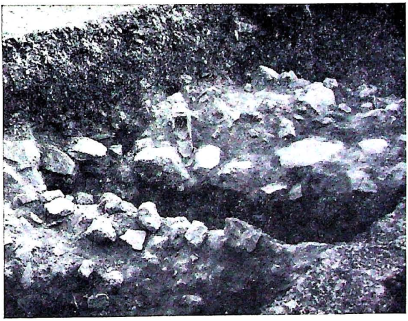


PLATE I: View of the Excavations, Mound II, Brahmapuri, Kolhapur



A



B

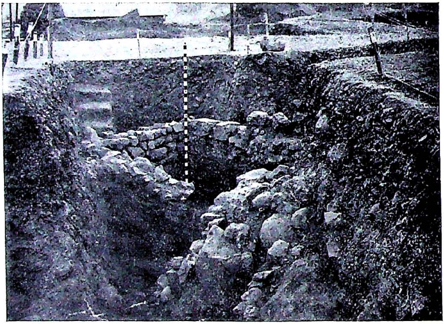
PLATE II: A Wall of large boulders, perhaps built by Aurangzib.
B Rubble wall, with a pottery drain, Ex. V.

PLATE III: A

B

PLATE III: A and B Remains of buildings from (1) the Missionary Period (1874) to (4) the Śilāhārā (1200) and (5) Post-Śātavāhana Period.

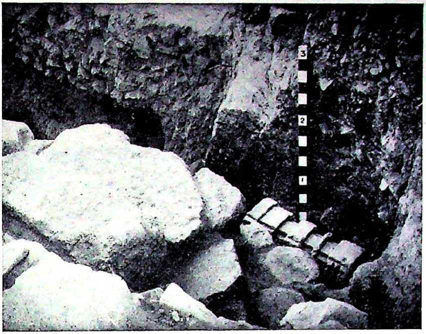
A



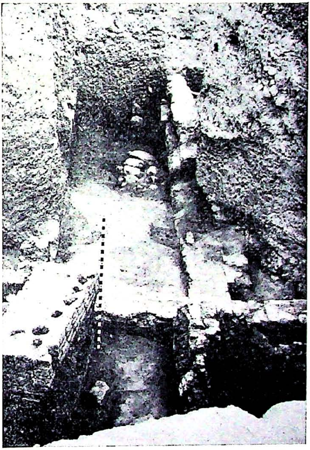
B

PLATE IV: A Remains of rubble walls with traces of the fireplace (in back wall), and lower part of a rotary quern *in situ* in Square III.

B Room in Ex. V. Bahmani Period.



A



B

PLATE V: A Remains of a Śilāhāra pillar at the junction of Sq. II and IV.
B Remains of a Śātavāhana house below the 'Post-Śātavāhana' structure with holes in Sq. II and Extension III.

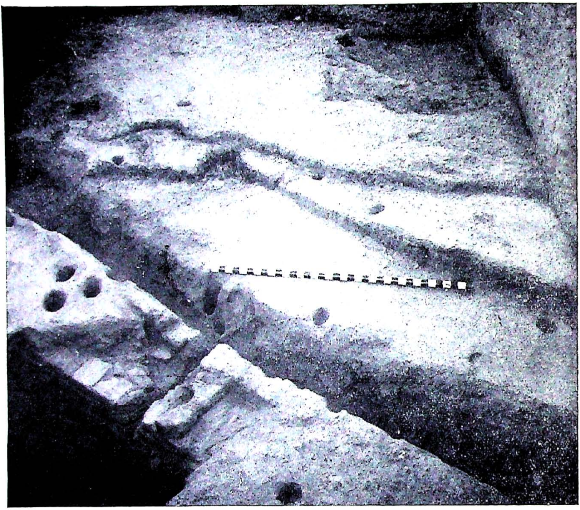
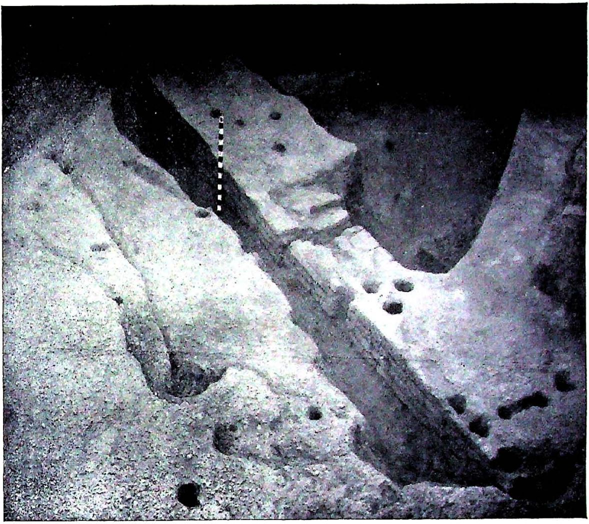


PLATE VI: A



B

Plate VI: A and B Lime-concrete pavements with post (?) holes, 'Post-Śātavāhana' Period, Sq. II.

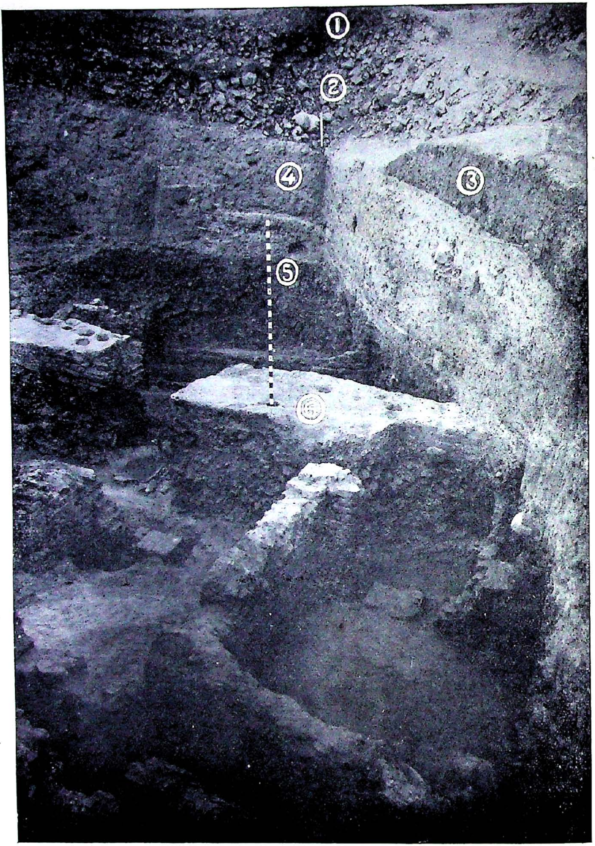
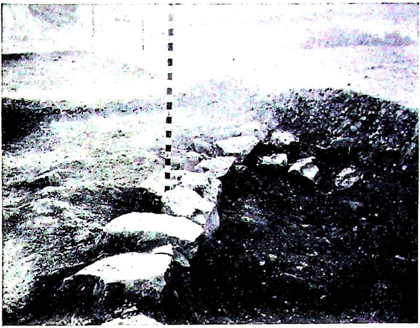
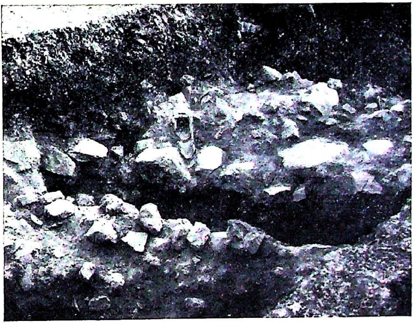


PLATE VII: Remains of Śātavāhana houses below six layers of (1) humus and rubble, (2) rubble, (3) river-flood silt, (4) mudwalled debris, (5) brickbats, (6) lime-concrete flooring.



A



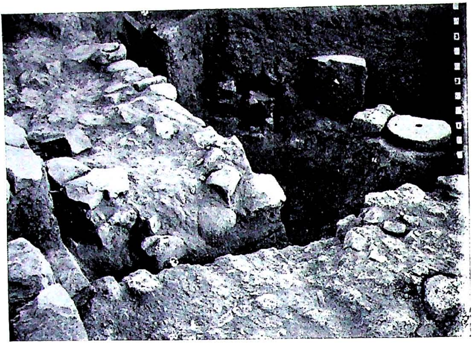
B

PLATE II: A Wall of large boulders, perhaps built by Aurangzib.
B Rubble wall, with a pottery drain, Ex. V.

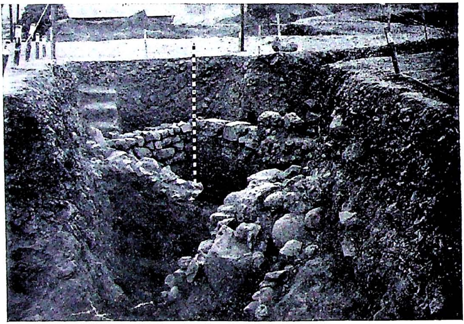
PLATE III: A

B

PLATE III: A and B Remains of buildings from (1) the Missionary Period (1874) to (4) the Śilāhārā (1200) and (5) Post-Śātavāhana Period.



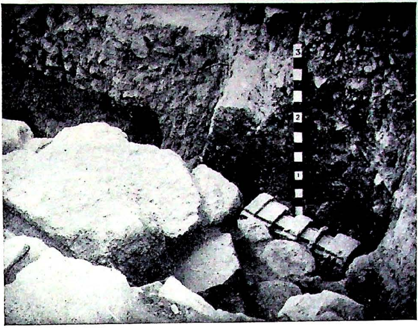
A



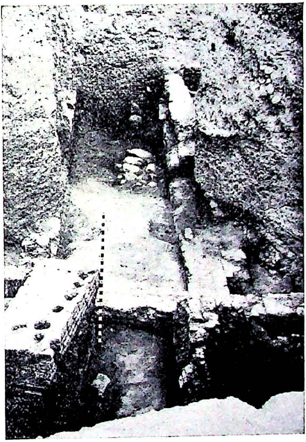
B

PLATE IV: A Remains of rubble walls with traces of the fireplace (in back wall), and lower part of a rotary quern *in situ* in Square III.

B Room in Ex. V. Bahmani Period.



A



B

PLATE V: A Remains of a Śilāhāra pillar at the junction of Sq. II and IV.
B Remains of a Śātavāhana house below the 'Post-Śātavāhana' structure with holes in Sq. II and Extension III.

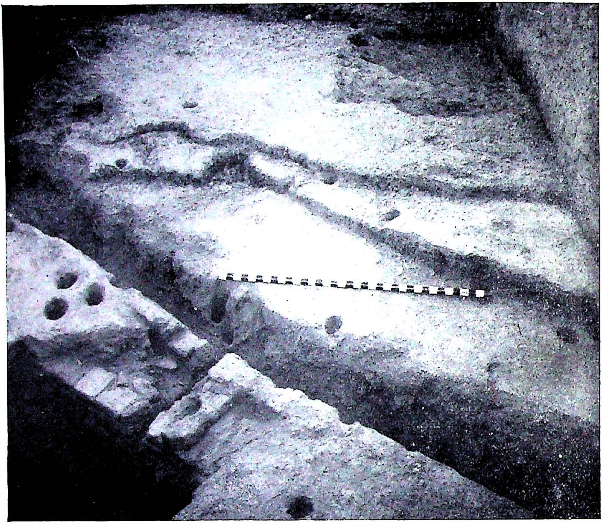
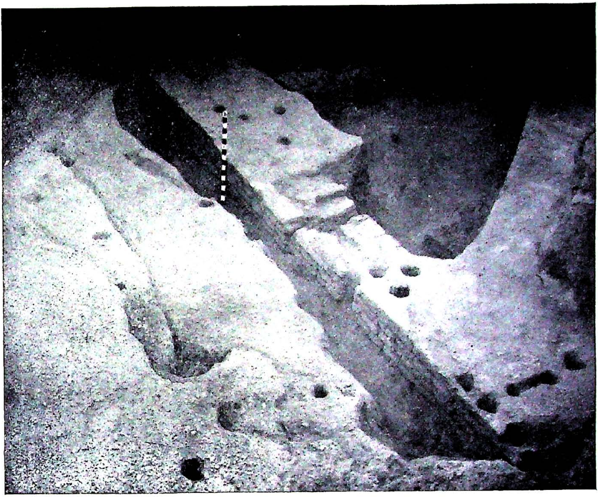


Plate VI: A



B

PLATE VI: A and B Lime-concrete pavements with post (?) holes, 'Post-Śātavāhana' Period, Sq. II.

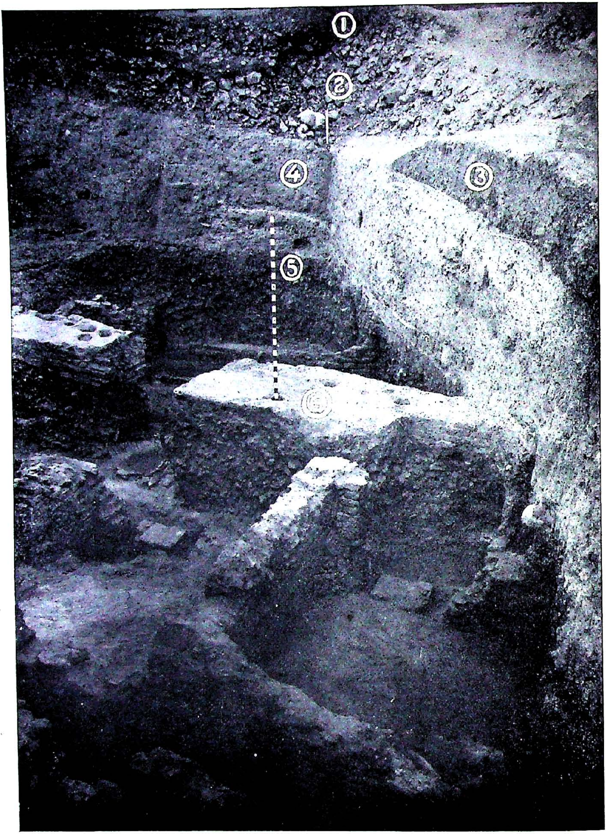
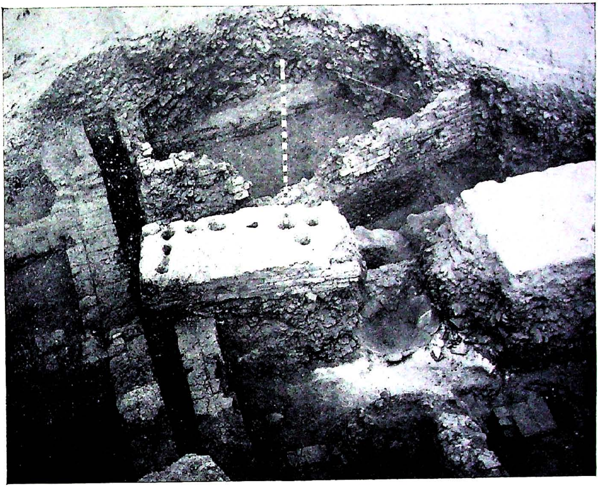
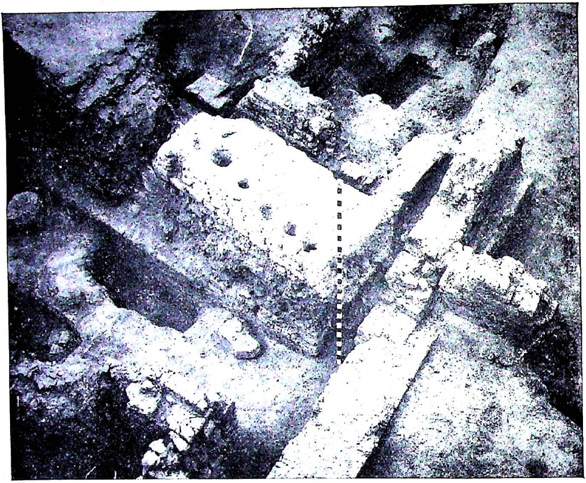


PLATE VII: Remains of Śātavāhana houses below six layers of (1) humus and rubble, (2) rubble, (3) river-flood silt, (4) mudwalled debris, (5) brickbats, (6) lime-concrete flooring.



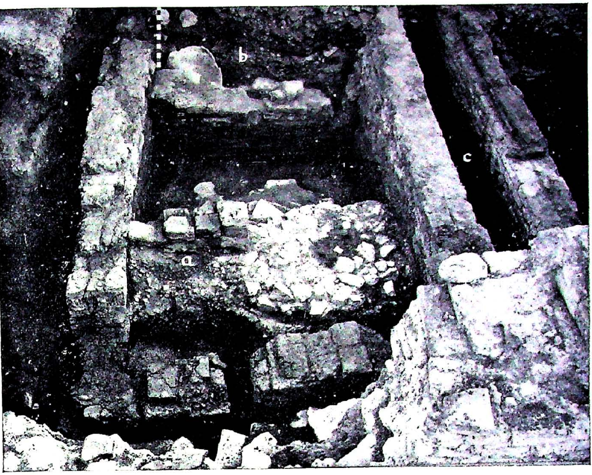
A

PLATE VIII: A Remains of two Śātavāhana houses with an irregular passage in Sq. II and Extension III.

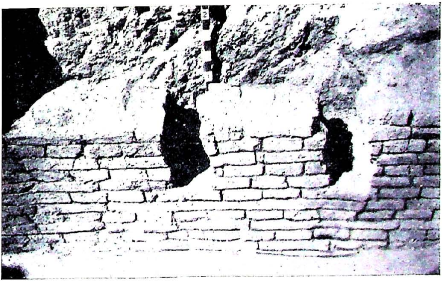


B

PLATE VIII: B The same from another angle.



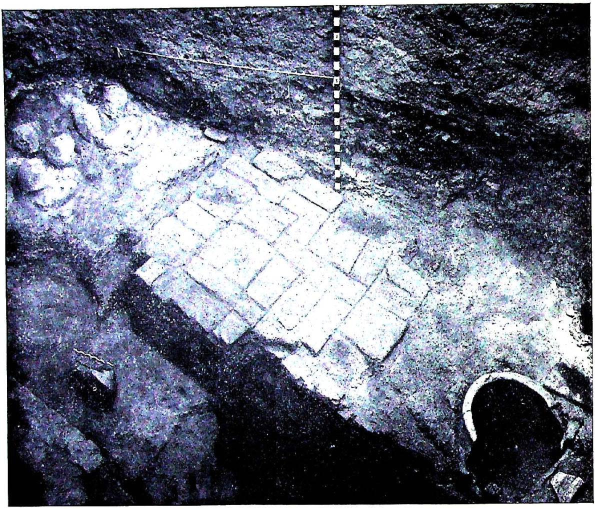
A



B

PLATE IX: A Remains of two Śātavāhana houses with a regular passage, (*c*) Mound I. Room (*b*) contains a large storage jar *in situ* in the left hand top corner. Room (*a*) debris of a later period.

B Plinth of a Śātavāhana house, with slits for a door, Extension III.

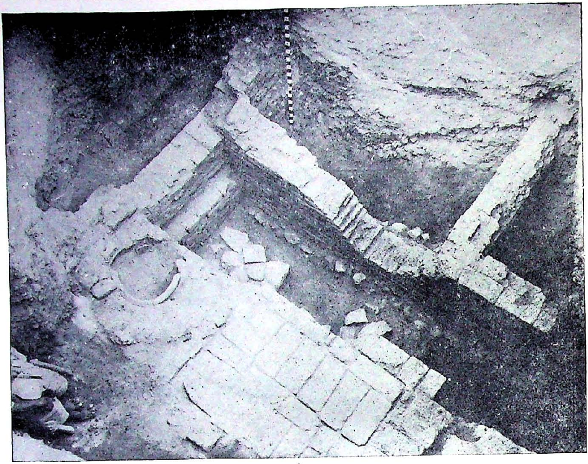


A

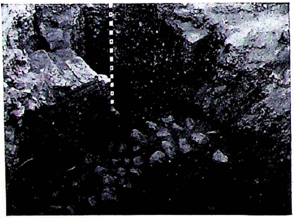
PLATE X : A Śātavāhana kitchen, with a brick floor, two *chūls* (hearths) in the left hand top corner, and built-in storage jar on the right. Sq. I.

B

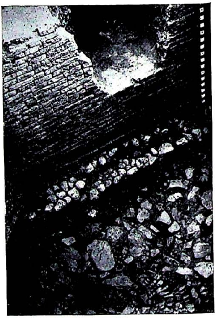
PLATE X: B Blocks of stone below the kitchen floor.



A



B



C

PLATE XI: A Śātavāhana kitchen, and other rooms, showing the method of laying the foundation. Sq. I.

B Pebble-and-mud foundation wall. Pits. I-II.

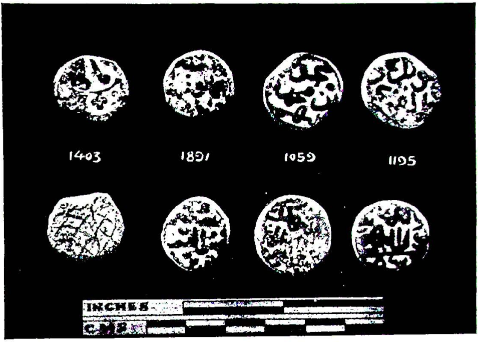
C Pebble-and-mud foundation wall, a prepared ground foundation and a brick wall in a Śātavāhana house. Pits. I-II.

PLATE XII: Remains of a deer below an earlier Śātavāhana house, Ex. II.

A

B

PLATE XIII: A Close-up of the remains of a deer, Ex. II.
B *Chūls* (hearths) made up of large pebbles and cemented with clay and their fronts enclosed by clay borders. Sq. I.



A

B

PLATE XIV: A and B Bahmani Coins, except No. 1403 of Aurangzib.

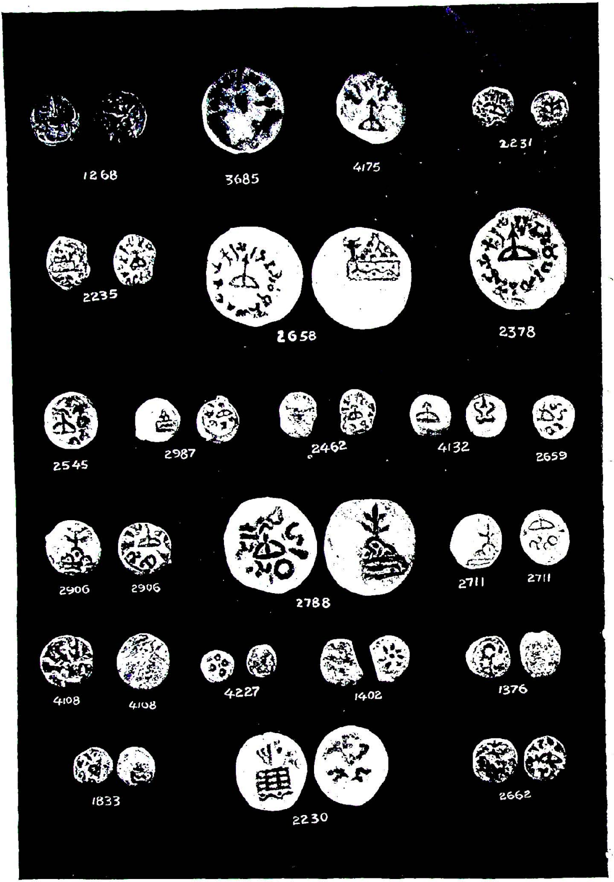


PLATE XV: Coins of Śilāhāras (No. 1268), Kuras, Cuṭus, Mahāraṭhis and Śātavāhanas.

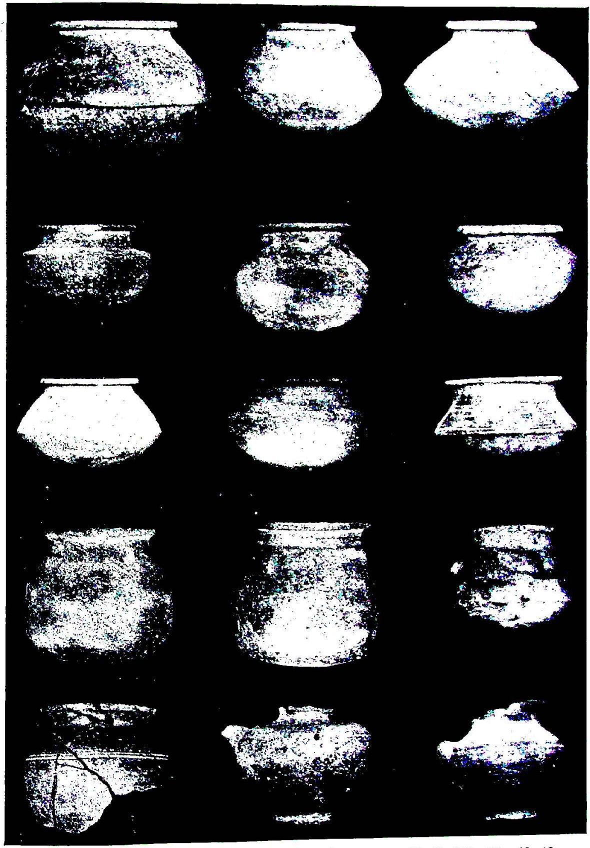
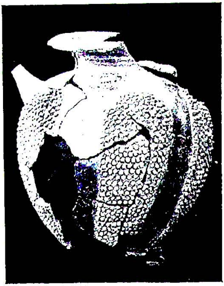
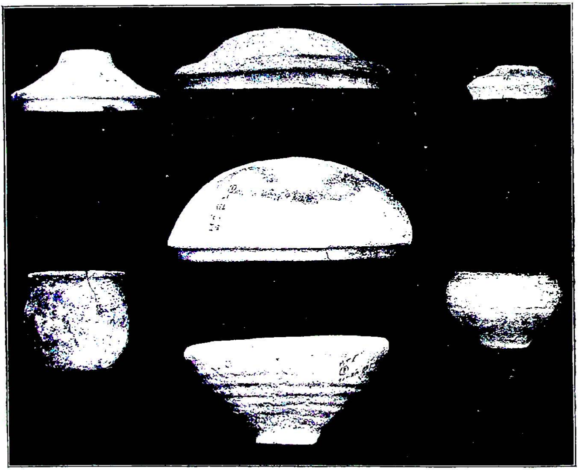


PLATE XVI: Pottery Types: (from left to right and top row) 20, 21, 20*b*; 46*a*, 43, 42; 20*a*, 44, 41; 27, 27*a*; 21*a*; 32*b*, 83, 84.

A



B



C

PLATE XVII: A Khuja, unstratified. B Khuja, with Jackfruit decoration.
C Lids and Bowls.

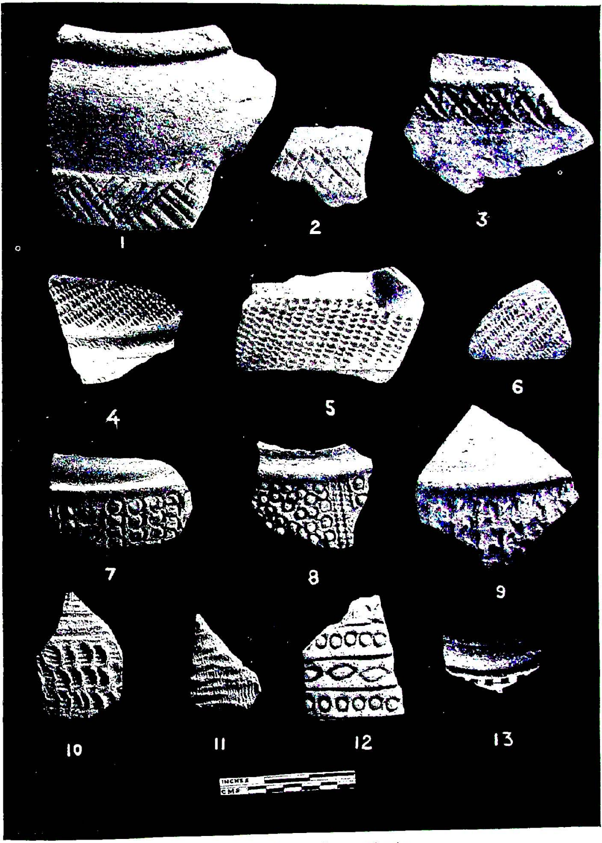
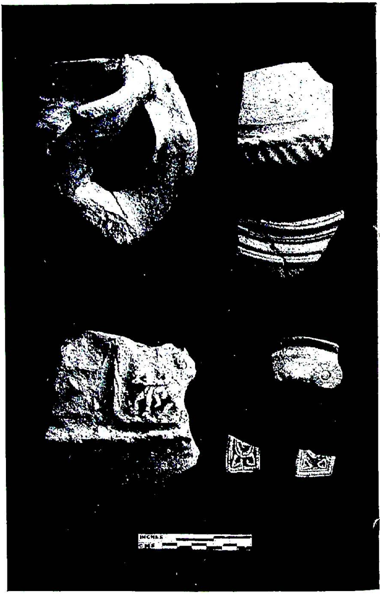


Plate XVIII: Incised Pottery (sherds)

A

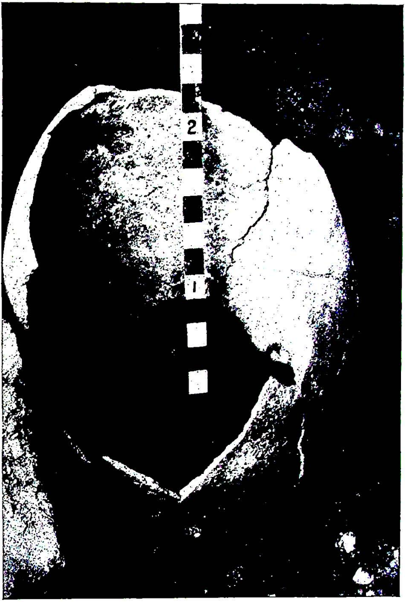
26 AUG 1969
GOVT. OF MADRAS, MADRAS.



B

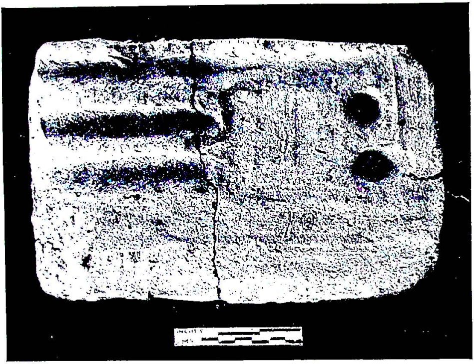
PLATE XIX: A Pottery vessel, imitating a Roman Bronze vessel (See Pl. XXXIII, C) from the Śātavāhana kitchen floor, Sq. I.

B Handled Incense Burner; below it a sherd showing a horseman in low relief.



A

PLATE XX: A Large storage jar *in situ* (See Pl. IX A) Śātavāhana house, Mound I.



B

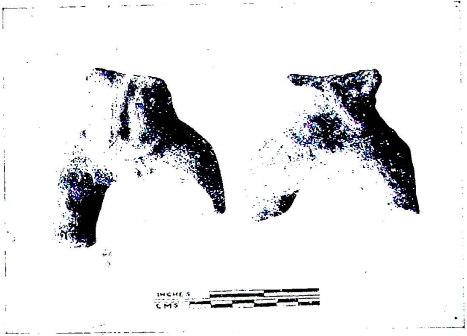
PLATE XX: B Roof tile of a Śātavāhana house.

A

B

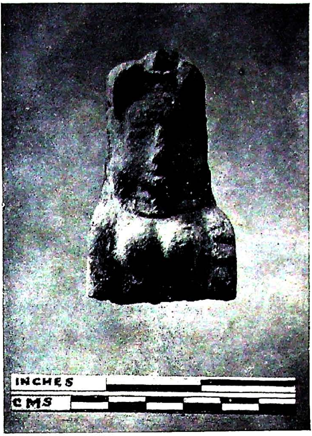
PLATE XXI: A and B Female Śātavāhana Terracotta Figure. Ex. II.

C



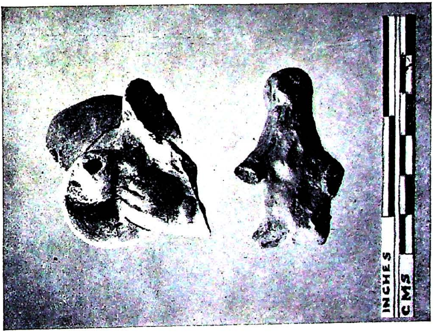
D

PLATE XXI: C and D Male Torsos. C has a parrot on the left arm.



A

B



C

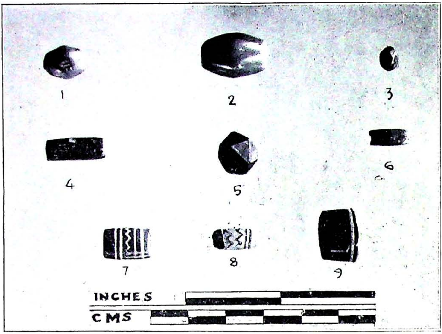
PLATE XXII: A Female, 'Post-Śātavāhana' Terracotta Figurine.
B Head, Śātavāhana (See Pl. XXI, Ḍ).
C Left, Kaolin hand holding something; Right, crude female figurine.

A

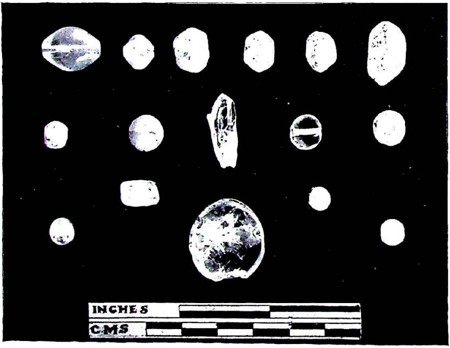
B

C

PLATE XXIII : A Silver Plaque of Goddess Pārvatī.
B Bronze Object.
C Bronze Vessels, Bowl and Container. Bahmani.

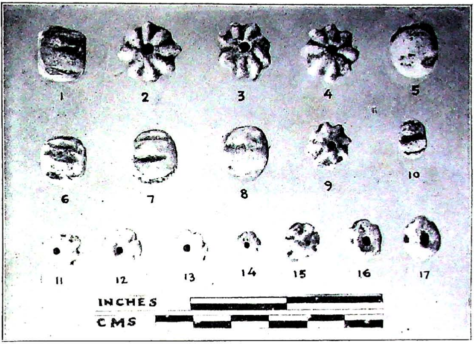


A

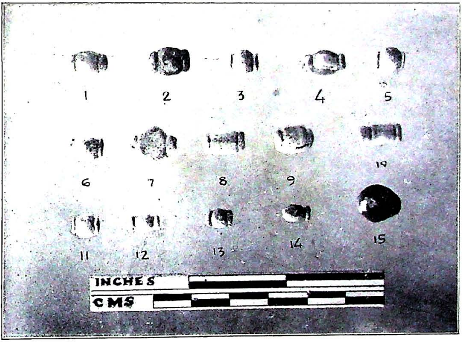


B

PLATE XXIV: A Carnelian beads.
B Crystal beads.

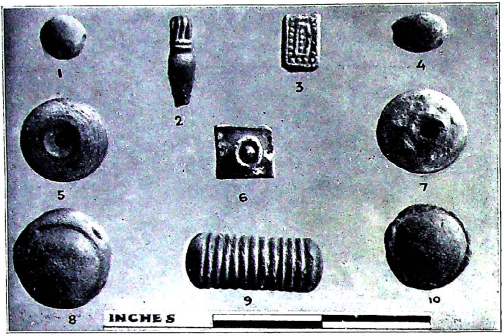


A

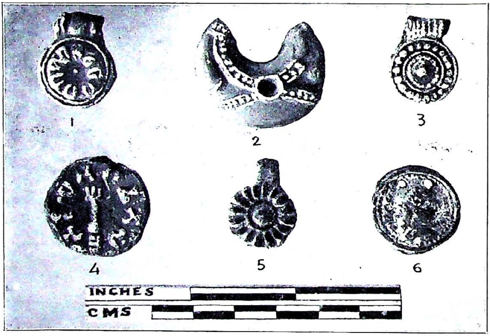


B

PLATE XXV: A Faience Gadrooned Beads of various types.
B Collared Beads of various types.

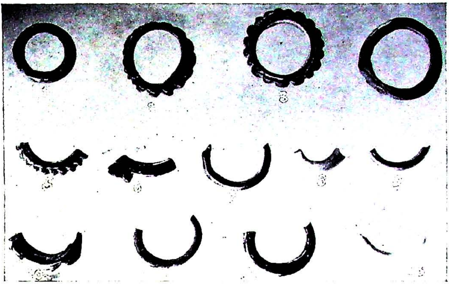


A

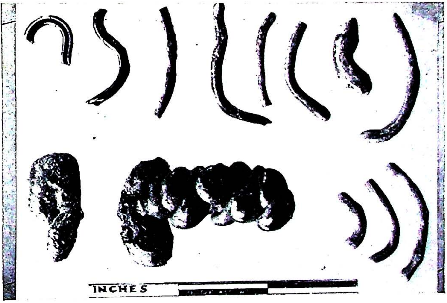


B

PLATE XXVI: A Terracotta Beads and Pendants.
B 1, 2, 3, 5, Terracotta Pendants; 4, Brāhmī Seal.
6, Roman Clay Bullae.

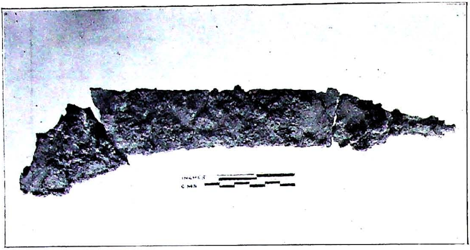


A

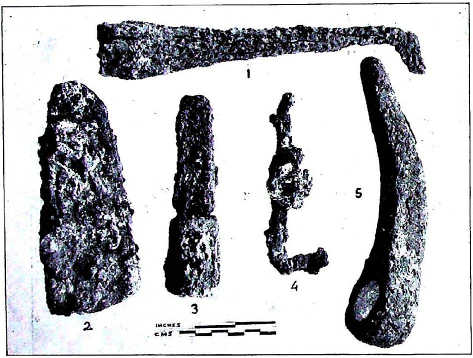


B

PLATE XXVII : A Glass Finger Rings.
B Glass wires and slag, Bahmani Period.

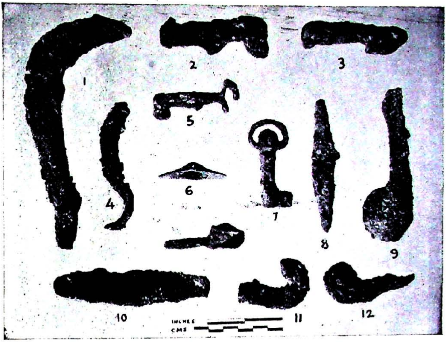


A

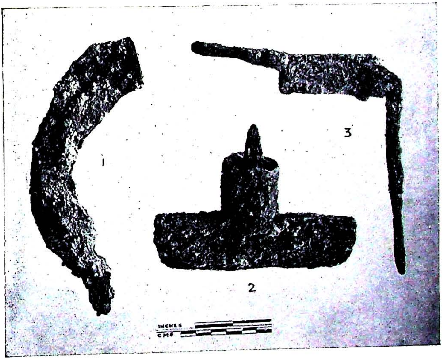


B

PLATE XXVIII : A Iron knife, Śātavāhana.
B Iron tools, Bahmani-Śilāhāra.

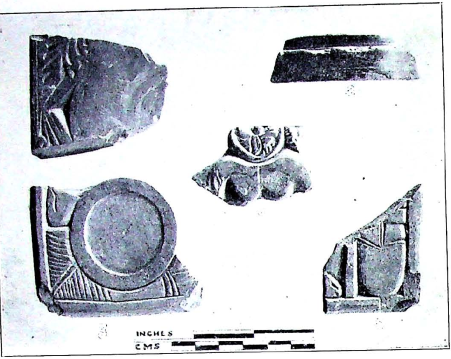


A

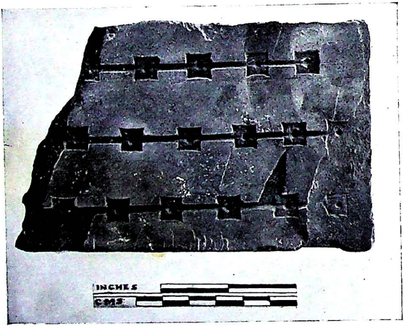


B

PLATE XXIX: A, B Iron tools, Bahmani-Śilāhāra.

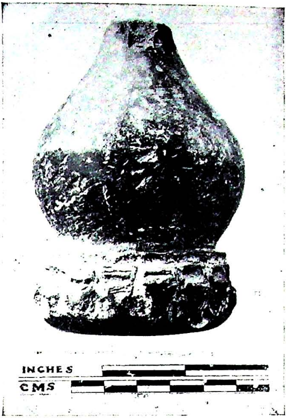


A



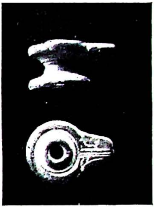
B

PLATE XXX : A Incised Stone objects, Śātavāhana.
B Slate Mould for beads, Do

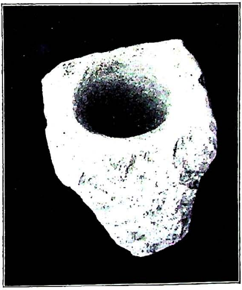


A

B



C



D

E

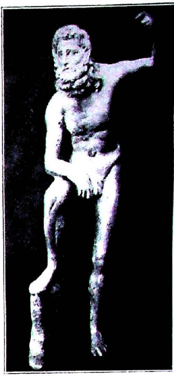
PLATE XXXI : A Stone Kalaśa (finial), Śilāhāra.
B Stone Inscription, Śilāhāra.
C Steatite Liṅga, Śilāhāra.
D Pounding Stone, Bahmani-Śilāhāra.
E Saddlequern with pestle (Pāṭāvarvaṇṭā) from Śātavāhana kitchen.

A

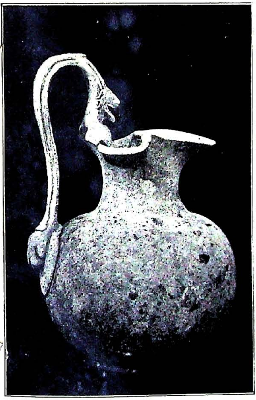
B

PLATE XXXII : A Steatite Pencils.
B Bone Points.

A



B

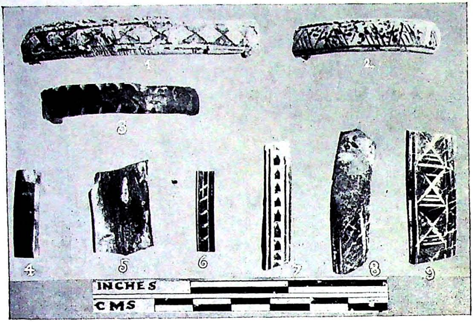


C

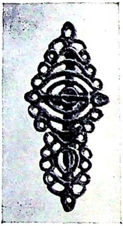
D

ROMAN BRONZES

PLATE XXXIII: A Dish with figures (perhaps Eros and Psyche ?) in half relief.
B Poseidon, Graeco-Roman God of the Sea.
C Trefoil mouthed jug, with a handle.
D Spouted Vessel and Lid.

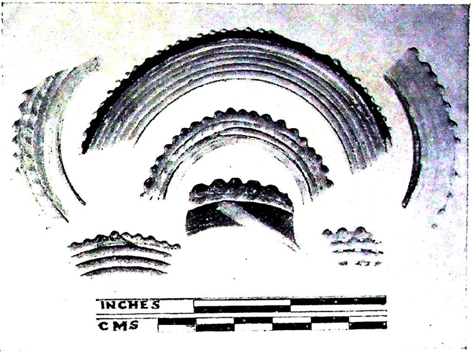


A



B

PLATE XXXIV: A Shell Bangles.
B Gold Pendant with rubbies



A

B

PLATE XXXV: A and B Polychrome Glass Bangles. Bahmani